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MATT PRIOR 'It's a laugh – and feels like a real Ferrari'



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THE VERDICT IS IN!



ASTON VALKYRIE

8 years in the making (but worth the wait)

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S-CLASS USED GUIDE

It's a cut-price Rolls



NEW LOTUS SALOON • THE TOYOTAS THAT AREN'T AS THEY SEEM

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RESOLUTELY STYLISH

electrifying to drive

The dictionary defines the word 'resolute' as meaning 'admirably purposeful'. The perfect moniker, then, for the limited-run MINI Electric Resolute Edition. Adding a wealth of special touches to its 145-mile range^[1], 0%-80% rapid charging in as little as 36 minutes^[2], 270Nm of electrified torque and MINI's go-kart-like handling DNA, it's the ultimate evocation of the all-electric hatchback.



COLOUR ME A CLASSIC

Evoking iconic 1960s MINIs and harking back to MINI's racing heritage, the exclusive eye-catching Rebel Green solid paint option channels the classic Connaught Green used on the original Austin 1100. Or, you can pick Enigmatic Black or Nanuq White.

FIRST-CLASS SEATING

The classic-meets-contemporary Light Chequered cloth upholstery embodies MINI's quality craftsmanship and attention to detail, while the sleek sophisticated dashboard is clad in Resolute design foil, pairing perfectly with the Resolute badges.

DETAILS, DETAILS

The MINI Electric Resolute Edition is covered from head-to-toe in eye-catching exclusive bronze detailing: from Resolute Bronze exterior light, door handle and grille surrounds, to bonnet stripes and door sill finishers.



MINI ELECTRIC



'It's the closest a hot hatch comes to something like a GT Porsche'

AUTOCAR

Issue 6557 | Volume 315 | No 11

NEWS

- Three new Minis** Hatch, larger SUV and EV crossover **4**
- Tesla 'Model 2'** Plus other highlights from big event **8**
- Hyundai Kona** New upsized SUV to hit UK this year **10**
- Lotus saloon** Taycan-rivalling Type 133 spied testing **12**
- Blow for self-driving cars** UK tech firm pulls back **14**
- Parts theft rises** Shortage of parts is being blamed **16**

TESTED

- Aston Martin Valkyrie** Formula 1 pace - in a road car **24**
- Bentley Flying Spur Speed** Sideways in W12 saloon **30**
- Ford Ranger Raptor** Hot petrol V6 pick-up in the UK **31**
- Lexus RX 350h** Regular hybrid version of new SUV **31**
- Volkswagen Multivan eHybrid Style** **ROAD TEST** **32**

FEATURES

- Ferrari Purosangue driven** Moment of truth for 4x4 **42**
- Track day tips for novices** What to drive, how to do it **52**
- Badge engineering** Why manufacturers still do it **54**
- V6 engines** Has there ever been a truly great one? **58**

OUR CARS

- Renault Mégane E-Tech Electric** First impressions **64**
- Toyota Yaris Cross** It's beyond criticism. Mostly **65**
- Peugeot 308 SW** Time to play with its Sport mode **66**
- Skoda Enyaq iV vRS** Tales from a long commute **67**

EVERY WEEK

- Jesse Crosse** Why airless tyres may be the future **13**
- Jim Holder** Will cars be welcome in 15-minute cities? **15**
- Matt Prior** Wörthersee says auf Wiedersehen to GTI **17**
- Steve Cropley** The 345mph electric record breaker **19**
- Damien Smith** Formula E: best overtake of 2023? **21**
- Subscribe** Save money and get exclusive benefits **22**
- Your Views** ULEZ beef; £1660 for a headlight unit **60**
- On this day** You'll need a mascot, not a driving test **63**
- Slideshow** The 12.8-litre Royale and other big lumps **82**

DEALS

- As good as new** This Type R may be *better* than new **68**
- James Rupert** Dealers sell the funniest things **69**
- Cult hero** S-Classes from only £3k. Chauffeur extra **70**
- New cars A-Z** Key car stats, from Abarth to Zenvo **72**
- Road test index** Track down that road test here **81**

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THIS WEEK

COMMENT

WE WON'T SEE A CAR LIKE THE VALKYRIE AGAIN



'ASTON AND NEWHEY plot hypercar', read the lead news story headline in our 15 July 2015 issue when we exclusively broke the news of the car that would become the Valkyrie.

At last, almost eight years later, we have driven it (p24). Such a long gestation shows just how difficult it has been to deliver a radical, Le Mans-style road-legal car. That Aston Martin has reached this point at all is remarkable, however long it has taken.

The hypercar world into which the Valkyrie arrives is very different from the way things were when it was announced. Back then, it was the encore to the LaFerrari/McLaren P1/Porsche 918 Spyder era, but since 2015 the hypercar world has gone electric. Suddenly, big power doesn't necessarily mean big excitement.

This glimpse of the future makes us cherish the Valkyrie even more. The word 'ultimate' is perhaps overused, yet there is a strong case for calling the Valkyrie the ultimate combustion-engined car in so many ways, although Gordon Murray's upcoming T50 might have something to say about that.

We won't see another car like the Valkyrie, though, and when 'ultimate' comes to be applied to an EV, that car will be something very different indeed.

Mark Tisshaw Editor

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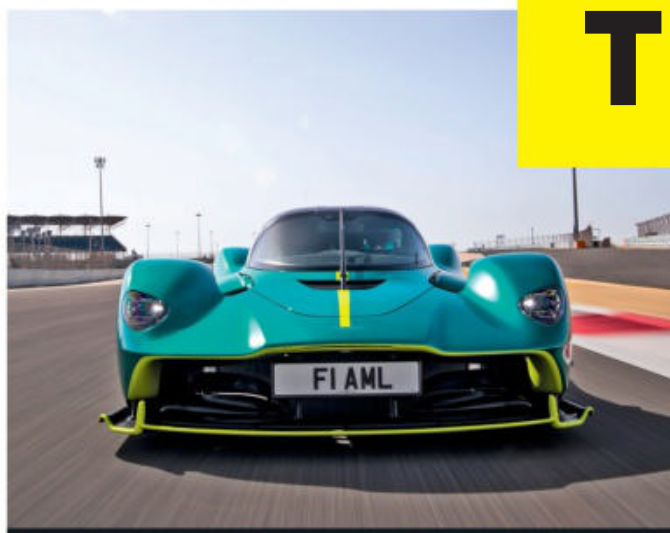
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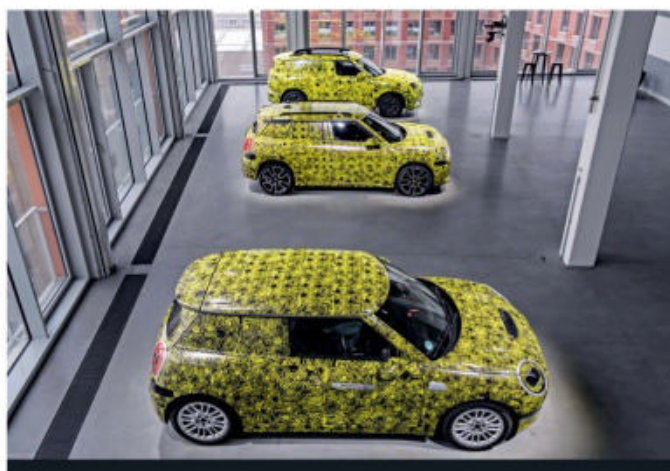
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Subscribe p22



ASTON MARTIN VALKYRIE FINALLY DRIVEN **24**



ROAD TEST: VOLKSWAGEN MULTIVAN eHYBRID **32**



THREE NEW CARS CRUCIAL TO MINI'S FUTURE **4**



"IT IS UNDOUBTEDLY THE MOST EXTREME FACTORY-BUILT CAR TO LEGALLY WEAR NUMBERPLATES"

ASTON'S VALKYRIE HAS A LOT TO LIVE UP TO. MIKE DUFF REVEALS IF IT SUCCEEDS **24**

COVER STORY



FERRARI PUROSANGUE: THE SUV THAT ISN'T **42**

NEWS

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OFFICIAL PICTURES

Mini poised with three-pronged assault for new era

British brand to launch bigger SUV, all-new hatch and EV-only crossover

The reimagined Mini Cooper hatchback will provide the foundation for a "revolution" of the BMW-owned brand's wider line-up as it pushes towards full electrification by the end of the decade.

Along with the Aceman crossover – Mini's first electric-only car, positioned to take on the upcoming Jeep Avenger – and the larger new Countryman SUV, the freshened three-car range is a statement of intent for new Mini boss Stefanie Wurst, who took over from Bernd Körber in February 2022.

"It is the beginning of a new era. Mini's 100% electric range has to start somewhere. This is a bridge for us to go fully electric," Wurst told Autocar at a recent preview event, where the trio was shown under heavy camouflage ahead of a succession of reveals over the next 12 months.

Once the new range is in

dealerships, the brand wants to grow its electric sales split from 15% now – it currently offers only the Mini Electric hatchback – to 50% by the middle of 2025.

The new era will kick off with the launch of the Countryman (in electric and ICE forms) next February, followed by the electric Cooper in May 2024, the ICE Cooper in July 2024 and the "ticks-all-the-boxes" Aceman in January 2025.

More potent John Cooper Works variants will follow "around six months to a year" after the standard cars are launched, in both electric and combustion variants.

Although Mini is targeting new markets and a higher electrification mix, Wurst confirmed the company won't be gunning for volumes. Instead, it will be aiming for production numbers just above those of, for example, Porsche and Land Rover.

WILL RIMELL

“With the new range, Mini wants to grow its electric sales split to 50% by the middle of 2025”



MINI COOPER



COUNTRYMAN



ACEMAN



AUTOCAR
IMAGE

Hatch will be called Cooper and have a purposeful stance



MINI COOPER

Fourth-generation Cooper gets overhaul, new underpinnings

Mini's heartland supermini has been taken "back to its roots", said boss Stefanie Wurst, with a fresh look and 'new' name, being now officially called the Cooper, rather than the Hatch.

A wider track, shorter front overhang, larger wheels and longer wheelbase give it a more purposeful stance than the current Mini Hatch, while still matching its 3.8m bumper-to-bumper length.

New disc-shaped daytime-running lights – shared with the larger Aceman – surround bulbous headlights to give the smallest Mini a fresh face that's more recognisably descended from BMW's first Mini, launched in 2000.

The car maker will again offer the Cooper with both electric and combustion powertrains, told apart only by the exhaust pipes or lack thereof, but only in petrol-powered form will it be sold with five doors or as a drop-top – neither yet previewed. However, a limited-edition convertible version of the

current-gen Mini Electric is tipped to preview a future series-production successor.

"We are bringing the iconic hatch back to its roots," said Wurst. "This is a car for Mini lovers. This will be a very iconic car."

Produced in China and sitting on the all-new Spotlight EV platform created with joint-venture partner Great Wall Motors, the electric Cooper will take on the Fiat 500 EV with

a pair of competitively sized battery choices: 40kWh in the entry-level E car and 54kWh in the range-topping SE. Range will start at 240 miles (up 90 miles), confirmed Wurst, with powertrain improvements allowing "double what is offered with the same battery sizes now". She added that prices will push past £30,000. The current model is available from £29,000.

As with today's car, the →



DRLs ring the bulbous headlights; car's length will stay at 3.8m

← standard electric Cooper will have 181bhp, with the warmed-up SE raising that figure to 215bhp. Only two-wheel drive will be offered.

Mini has developed a soundtrack to accompany the car's acceleration, but Wurst said it "will not be Hans Zimmer", referencing the famous composer who devised aural effects for the EVs of parent company BMW. This sound will also change depending on drive mode.

A hot JCW version, using the same 54kWh battery as the SE, will arrive in mid-2025 – around a year after the standard cars – with a focus on power over range, which implies that upgraded motors will be fitted. Expect an output of around 250bhp and performance stats to match those of the recently revealed Abarth 500e and upcoming Alpine R5.

The electric car's handling is said to have been improved courtesy of a newly developed traction control system. As reported by Autocar following an early prototype ride last year, it uses a new motor controller with the traction control system essentially built in, which allows much faster reaction times under hard acceleration.

Combustion-powered Coopers, built in Oxford, will get a choice of petrol powerplants with varying outputs – most likely along with a hot JCW version at some point – although details remain under wraps at this early stage.

The combustion-powered line-up is expected to exclusively use a seven-speed automatic transmission. The car maker confirmed to Autocar it is "99% sure" it will not offer manual options on future products.

The Cooper's interior – which will be all but mirrored across the rest of the range – harks back to BMW Minis of old, with a focus on physical buttons extending to an actual ignition key (which will feature in the EV too). A circular screen with an edge-to-edge OLED display, meanwhile, replaces the trademark mid-mounted speedo. Notably, there will be no instrument display behind the steering wheel.

Elsewhere, 'funky' projections on the dashboard will display information for passengers, including time and speed, for example.

Personalisation options will continue to be a hallmark for the firm, which will offer the classic Union Jack roof, as well as other 'local' customisations such as 'year of the Rabbit' decals for the Chinese market.

ACEMAN

Set to rival the Jeep Avenger, the Aceman will be built in China



Five-door crossover will share tech with the smaller Cooper

Countryman to go after Audi Q3



New-gen SUV will be bigger than today's and is due in February

Mini will take a bold first step into the mid-sized SUV market with the new, larger Countryman, which has been created to stop the firm losing customers whose needs outgrow its current line-up.

Now twinned with the BMW X1, the new Countryman will be the first of Mini's new range to surface, arriving next February, with an electric powertrain option for the first time.

Mini boss Stefanie Wurst said: "This is something for people that say: 'I have a second child now, so I can't

get the stroller into this one [the current Countryman].' "We need it for the people that we are losing right now, because they don't have enough space."

The Volkswagen ID 4 rival has also been conceived to grow the brand in the US, which favours larger vehicles.

Visually, the car will differ from the current generation with a squarer front end, large front and rear overhangs and a more rugged treatment. It sports a more angular interpretation of Mini's new bulbous headlights – as seen

on the Cooper and Aceman.

The model will expand on the current car's powertrain line-up, with electric power replacing the soon-to-be-axed plug-in hybrid, alongside a petrol offering.

The entry-level electric variant will use the Cooper's and Aceman's 54kWh battery, and a 64kWh unit will be offered in top-rung SE guise. Although unconfirmed, the longest-legged variant is expected to roughly match the X1's 272-mile maximum range. Power will start at 188bhp in the E, rising to 268bhp in the SE. The car will also be the only Mini offered with four-wheel drive, for both electric and combustion versions.

JCW variants, in ICE and EV forms, will get visual cues in line with their extra grunt, such as red brake calipers and quad-exit exhausts.

Although it is bulking up and changing shape, the Countryman will keep its name, something Wurst doesn't believe will confuse customers: "I think they will understand. The Countryman is already established as the 'big Mini'."

COUNTRYMAN



New Countryman will have a squarer front and large overhangs

Electric-only Aceman crossover expected to be the best-seller

Mini has pinned the success of its next-generation line-up on its first electric-only car, the Aceman, which it expects to be its best-seller because it "does everything".

Launching in 2025, the five-door crossover is said to be barely differentiated from last year's concept, although the futuristic LED roof, wing mirrors and parts of the interior will be adapted for production.

The Aceman "ticks all the boxes", said Mini boss Stefanie Wurst. It will be sandwiched between the Cooper and enlarged Countryman as an indirect replacement for the estate-shaped Clubman. It is Mini's first new nameplate since the Paceman in 2012.

Set to rival the upcoming Jeep Avenger, it will be built in China and use a stretched version of the electric Cooper's Spotlight architecture, as well as its battery and power offerings. Given the Aceman is bigger and heavier than its supermini sibling, range for the entry-level 40kWh E is

expected to be down on the Cooper's 240 miles. A JCW variant will follow.

The Aceman will get a near-identical interior to the Cooper, although even funkier styling is on the cards. A knitted dashboard has been mooted.

"The Cooper is the car that comes in lots of shapes [and guises]. The Aceman is like the standard: it only comes in five doors, only electric,

only crossover. It ticks all the boxes," said Wurst, adding it is an "important" car for the brand, especially for the UK.

It will be the car with the broadest target market, as "you can buy it for your first car, or have it as your only car".

Wurst also expects it to sell well in Asia. She said: "I think this car has the biggest potential. It is the one with the hottest 'newness' aspect."



Aceman concept will heavily influence the 2025 production car

“Twinned with the BMW X1, the new Countryman will be the first of Mini’s new range to surface”



Q&A STEFANIE WURST, HEAD OF MINI



Wurst: "Mini is a very democratic brand but also a premium brand"



What does the 'revolution' mean for Mini?

"This is our gateway into 100% electric and brings us from 15% now [with just the Mini Electric in the line-up], to maybe a little bit more next year and then to more than 50% by the middle of this decade, then to almost 100%."

How is Mini's position evolving with this new line-up?

"Mini is a very democratic brand, but also a premium brand because we offer a really good product. But it's not a brand you express status with and I think Mini is for people who don't need to express their status with their car but express a certain state of mind."

"So I think Mini, in a way, is a very modern and contemporary product. It is not about being big or premium. It is about a certain lifestyle that you have: you take things more easily; you're not tense about what your income status is, what kind of hierarchy level you work at. It is more a state of mind."

How do you want people to see Mini in the EV era?

"Mini is fun. It's still go-karting. It's always been

a very friendly car. A Mini has to be easy and simple and easygoing. Anything too complex is actually not Mini. So I think it's about preserving what you have – for example, the centre display, really bringing it into [the modern day] with gamification and a brilliant display, but not straying too far away from the brand."

Why do you think the Aceman will be your best-seller?

"Because it offers everything. You have five doors, so if I had a family or sometimes passengers, or other things to transport, then this is the right car."

"It's only electric, which is the future of what we foresee right now."

"And it's a crossover, which a lot of people love because it's a little bit more rugged and it's more quirky. And it's like 'I could drive this off road if I wanted but I don't have to' – that kind of thing."



Why launch the Aceman instead of a five-door Cooper Electric?

"I think the Aceman has more potential. And I think this car would look great in Asia, in China, because they are less traditional. Also, we are still talking about the first generation of car drivers – people my age, or maybe older, maybe younger – whose parents didn't drive. It's the first, and so they don't have this heritage going on for them. They're less traditionalist."



Radical rethink on production for baby Tesla

Entry-level model to benefit from new platform and bold low-cost production



Musk revealed his post-ICE global vision at Investor Day



Tesla's keenly anticipated 2023 Investor Day event was uncharacteristically short on game-changing announcements and new-metal unveilings, but it did provide a first look at important new production processes – and confirmed that a new electric car platform is inbound.

Taking to the stage at the Texas Gigafactory to give Tesla stakeholders, fans and owners a wide-reaching update on the company's strategy, CEO Elon Musk was expected primarily to outline a long-mooted new platform that is tipped to underpin an 'affordable' entry-level car sitting beneath the big-selling Model 3 saloon.

As it turned out, Musk was less focused on showing new vehicles than he was in recent years, with the Cybertruck, Roadster, Robotaxi and Semi still yet to enter production (or volume production) several years after announcement.

Investors didn't take kindly to the dearth of product announcements, which caused Tesla's value to dip 5.9% the day after the presentation.

Instead, Musk outlined his vision for a cleaner global economy in the post-ICE age. Musk said: "There is a clear path to a fully sustainable Earth, with abundance." He added that this can be achieved without "austerity" and predicted that

"an electrified economy will require less mining than the current economy".

The all-out switch to electric road vehicles will cut fossil-fuel usage by 21%, according to Tesla. Musk said: "All cars will go to fully electric and autonomous. Driving a non-autonomous [ICE] car is going to be an allegory for riding a horse and using a flip phone."

He spoke of the need for a massive increase in battery production and storage capacity – the latter of which he estimated the world ultimately needs 240TWh.

"This is a lot of batteries but a very achievable amount," he said, explaining that the tally

included batteries both in and out of electric cars, at a ratio of around one to eight.

His battery ambitions are in line with a conviction that "as we improve the energy density of batteries, you will see all transportation go fully electric". He also condemned

the potential for other fuel types to transform the mobility industry, saying: "Hydrogen will not be meaningfully used in transport."

Simpler production process

Tesla engineering boss Lars Moravy said the Model 3



VW-BASED FORD SUV DUE IN TWO WEEKS

Ford will unveil its crucial new electric crossover – a US-influenced five-seater based on Volkswagen's MEB platform – on 21 March. It will replace the Fiesta at the firm's factory in Cologne, Germany, later this year.



ASTON OPTIMISM AFTER £6.6M PROFIT

Aston Martin posted profits of £6.6 million for the final three months of 2022, stirring hopes that the struggling firm can turn around a prolonged loss-making spell. It hailed a higher average selling price for its cars of £184k, up from £152k in 2021.



New car is tipped to slot in below the Model 3 and be more 'affordable'



WHAT ELSE DID WE LEARN?



Cybertruck confirmed - finally

The long-delayed Cybertruck pick-up will enter production later this year, having been shown in production form at Investor Day more than three years after its headline-baiting reveal. It was originally due to launch in 2021, and Tesla claimed to have received 200,000 orders as early as November 2019.



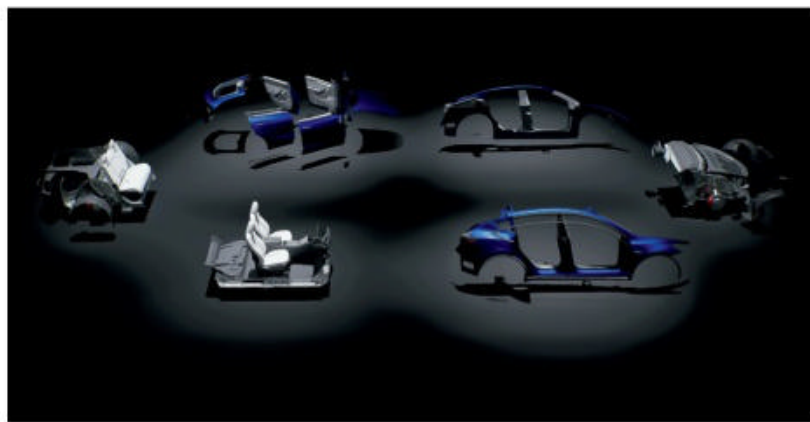
Roadster axed - quietly

Conspicuously absent from a Tesla product roadmap was the Roadster. A concept was shown in 2017 and Musk, much later, confirmed plans for a 2023 launch. But there were only two products under sheets in the new Tesla preview: the affordable 'Model 2' and a more upright, larger, shuttle-style vehicle.

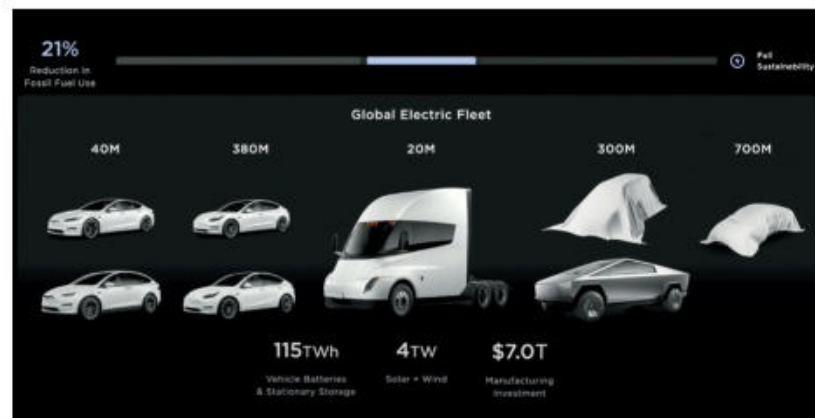


Motors made more efficient - cleanly

Upgrades to motor technology have resulted in a 75% reduction in silicon carbide. Tesla powertrain boss Colin Campbell said that while the latest-generation motors use 75% less silicon carbide than previously, the next-generation motor will not use any rare earth metals at all.



Production advances mean fewer assembly steps for new platform



Tesla estimated the size of key global sectors after a 100% EV shift

into a bodyshell that has been painted in sections to avoid the need for door removal and re-installation.

The new model is, essentially, centred on "only doing things that are necessary" - which means avoiding any unnecessary movement or disassembly of the car or its components during its journey down the line. Moravy said today's established mass-production processes are based on those pioneered by Henry Ford. "It's hard to change the car production process after 100 years," he said.

New platform for cheaper EV

Details of the next Tesla car have been kept largely under wraps, with Moravy going only so far as to confirm "it would not be a Model Y" that benefits from the outlined production advances, as was depicted in

an illustration that showed the innovations.

Tesla design boss Franz von Holzhausen said details of the firm's next car (widely anticipated to be a more affordable model to sit below the Model 3) will come "at a later date". It is likely to be the first Tesla produced at a new factory in Monterrey, Mexico.

Tesla estimates that its new platform will reduce construction cost per vehicle by around \$1000 (£830), which should translate into a tangibly lower price point for consumers. Notably, Tesla will face fierce global competition from the likes of Volkswagen, Renault, MG and various Chinese manufacturers - which have confirmed plans to launch electric vehicles priced more in line with today's more affordable combustion cars.

FELIX PAGE

"landed us in production hell" with delays and obstacles throughout the construction process hampering its roll-out.

But now, new methods of vehicle production, first explored in development of the angular, unpainted Cybertruck, are touted as allowing a 40% reduction in factory footprint, cost savings of up to 50% and a drastic reduction in the risk of delays at each stage of the production line. Fundamentally, Tesla will look to minimise the amount of work needed at each stage of the process. For example, the seats will be mounted directly to the under-floor battery pack, with the entire unit then raised up

Fisker explains how it will go Pear-shaped

ONE MODEL DEVELOPMENT programme no doubt being watched intently by Tesla is that of American EV start-up Fisker's Pear hatchback.

Fisker has now outlined some of the ways it will keep the small EV below £25,000 ahead of its unveiling this year alongside the Ronin sports car and the Alaska, a pick-up version of the company's Ocean SUV.

The Pear has been designed with "a new set of automotive

specifications", said founder Henrik Fisker, who hinted that the firm will build fewer prototypes, saving money.

The Pear has an electrical architecture that uses fewer, more centralised ECUs and is "driven by software, not

hardware", according to chief financial officer Geeta Gupta-Fisker, suggesting a move to a more centralised computer system to reduce complexity and boost processing power.

The Pear is based on a dedicated steel platform, which will be cheaper than the aluminium skateboard architecture of the Ocean.

Two battery sizes will be offered, the largest of which will net more than 300 miles of range, claimed Fisker.



OFFICIAL PICTURE

TATA EYES UK FOR EV BATTERY FACTORY

Jaguar Land Rover owner Tata Motors is reported to be seeking upwards of £500 million in support from the UK government for a new British EV battery factory. The Financial Times says Tata has narrowed location choices to Spain or Somerset.



HONDA CREATES 800BHP CR-V HYBRID

Honda has revealed an extreme Indycar-spec version of the new CR-V with an 800bhp hybrid V6. Devised as a "rolling laboratory", the hyper-crossover will help Honda to experiment with new electrification and e-fuel technologies.



Bigger, plusher new Kona arrives with focus on EV

SUV moves up in size and perceived quality; EV the star, ICE and hybrid also offered



New materials and extra tech aim to lift the cabin ambience



Hyundai has made the electric version its priority

The new second-generation Hyundai Kona has been “taken to the next level” through a focus on the electric version and learnings from the Ioniq 5 and Ioniq 6.

Already on sale in Korea and due to land in Europe this summer, the new Kona arrives just six years after the original.

It will continue to be offered with petrol, hybrid and electric powertrains – but whereas the first-gen Kona was developed as an ICE car, the EV was the priority for the new model.

The EV accounted for around 40% of first-gen Kona sales in Europe and that proportion will increase sharply in the future.

The Peugeot 2008 rival switches to a new multi-powertrain platform and has grown substantially. Hyundai refers to it as being “upscaled”. At 4355mm, the new Kona is 175mm longer than its predecessor. It is also 25mm

wider and 20mm taller and the wheelbase has been stretched by 60mm. This makes it slightly smaller than the closely related Kia Niro EV, leaving the Bayon as Hyundai’s smallest SUV.

A larger platform means there is much more interior

room and that comes alongside a major focus on increasing the perceived quality of the trim and materials.

The new EV features a flat floor – rare in a multi-powertrain model – which allows for a large centre

console and “curveless” bench seat in the rear. The boot has grown by 92 litres to 466 litres.

The driver controls have been relocated from the centre console to a steering column stalk, while the dashboard features a pair of 12.3in

screens. There is also an optional 12.0in head-up display.

Two powertrains will be offered in the Kona EV. The standard version has a 154bhp motor and 48.4kWh battery (up from 134bhp and 39kWh), while the long-range model

WHAT ABOUT A HOT KONA N VERSION?

All three Kona models will be offered with a sporty N Line trim, but there are currently no plans for a new version of the high-performance Kona N. “Kona N has done okay. It was never going to do big volume for us, and when we looked at the new Kona, it wasn’t ever part of the initial plan,” said Hyundai’s Europe CEO Michael Cole.

“We’re having to focus our resource and energies where we think there’s a much bigger N story to tell, which is electrification.”



First-gen Kona N “has done okay”



HYUNDAI DESIGN CHIEF SANGYUP LEE PICKS HIS KONA HIGHLIGHTS



Front light bar

"The seamless surround for the lights is one piece. That's a very expensive execution, especially for this segment. It makes the surface so clean and uninterrupted."



Aerodynamics

"The front is really about aerodynamics and we developed it in the wind tunnel. It's very smooth and sleek, with a drag coefficient of 0.26. We've been able to apply lessons from the Ioniq 6 to other vehicles - and the Kona is one of them."



Bodywork

"The side is not so critical for aero, so we could play with the sharpness. It's like Jekyll and Hyde with the volume of the surface."

Dashboard

"The interior really shows what we mean by 'upscale'. We used two 12.3in screens to create a panoramic display screen, which is really important with our infotainment system."



Seats

"The interior space of a car is becoming a new living space - so let's do the interior more like furniture rather than traditional automotive design. It's furniture, but everything is functional."



Centre console

"Moving the driving selector to the steering wheel frees up the central storage space and creates a lot of really useful space."



retains a 65.4kWh battery but its motor output is raised by 13bhp to 214bhp.

The standard version has an estimated official range of 212 miles and the long-range model 304 miles. That is a small increase on the previous

All second-generation Konas sit on a new, bigger platform



Kona, despite the new car being larger and more powerful, driven by a claimed energy efficiency of 4.1mpkWh in Long Range mode. Hyundai has yet to disclose exact charging speeds but says a 10-80% charge will take 40 minutes. It retains a 400V architecture.

Official performance figures for the Kona EV remain under wraps, along with details about European-spec powertrains for the ICE and hybrid versions.

The Kona will be produced in South Korea and the Czech Republic, with the latter set to provide all UK cars for the first time. The ICE and hybrid models will arrive in the coming months, with the Kona EV due to reach the UK in late summer.

UK pricing and specifications have yet to be finalised, but it is understood petrol models will start at around £26,000, with the EV approximately £35,000.

JAMES ATTWOOD



Hyundai i10, i20 and i30 are still in the firm's next-gen plan



Hyundai unwilling to "walk away from" city cars and hatchbacks

HYUNDAI IS ALSO planning next-generation versions of the i10 city car and i20 and i30 hatches - and it is considering how it can offer entry-level electric models in the future.

The Korean brand's i10 is one of a rapidly shrinking number of city cars on sale in the UK, largely due to the challenges that safety and emissions regulations present in making small cars profitable.

But while some rivals are abandoning the market for city cars and traditional hatches, Hyundai Europe boss Michael

Cole says the company is committed to the segments.

"We are strategising now about what comes beneath Kona long term," said Cole. "For now, i10, i20, i30, they're all still in our plan, even for the next generation. We're looking at what we have. Exactly what we'll have across those three lines I can't say today."

Cole added that the next challenge was to evaluate smaller electric cars. He said: "I believe there is a market below Kona, and

maybe even in more traditional bodystyles, such as hatchback. It's in our thinking, rather than necessarily in our long-term plan now, but for the European market we have to be thinking about that.

"I don't want to walk away from any customer group. So we have to think about those i10, i20, i30 customers: what could the future with electrification look like for them? It doesn't necessarily mean it's going to be Kona or Ioniq 5. We have to think about what could come sub-Kona."

Genesis eyes new UK centres

HYUNDAI LUXURY BRAND Genesis is seeking retail partners with automotive experience to open around 15 UK sales centres in 2024.

At present, Genesis operates its own two venues in London, with a third set to open in Edinburgh this summer. The move to working with retail partners is a significant shift for the brand as it looks to expand its presence in the UK after launching in mid-2021.

In 2021, it registered 127 cars, rising to 1000 last year. This year, it registered 121 cars in January alone, underlining its growth and the popularity in particular of its electrified models.

Genesis's growth is driven by cars such as the GV60





Lotus seen testing Taycan rival

Electric performance saloon will combine luxury with traditional sporting dynamics

The Lotus Type 133, a highly anticipated rival to Porsche's Taycan electric saloon, has been seen in public for the first time as testing begins in earnest.

A development mule was spotted driving on ice and snow alongside other near-production cars from Lotus parent company Geely, with prominent badging hinting that its unveiling will form part of the marque's 75th anniversary celebrations this year.

Lotus's first saloon since the legendary Carlton (a Vauxhall-based BMW M5 beater from

1990) will be given a name starting with 'E' before it reaches showrooms, Autocar understands, but it won't be the widely rumoured 'Envya'.

The Type 133 will be similar in size and shape to sibling brand Polestar's 5 (see right), which is due on sale around a year later, in 2024. However, the two cars will be tangibly differentiated in all important areas, according to Lotus boss Matt Windle.

Lotus hasn't yet confirmed whether the Type 133 will be available with the 5's range-topping 874bhp four-wheel-drive powertrain.

But Windle said last year: "It will be the Lotus ethos in that car. It's a bit more refined, further towards the luxury end of what we're trying to do with our performance luxury brand."

The highly strung Eletre R electric SUV, with 893bhp, will be the second-most-powerful car that Lotus has ever put on the road (after the Evija electric hypercar), and it's likely that a similarly potent version of the Type 133 is in development.

Gavan Kershaw, Lotus's director of attributes and product integrity, previously told Autocar that dynamic

development of the Eletre prior to its launch was more about "benchmarking the platform", rather than the car itself, with a view to then rolling out the skateboard - known as Electric Premium Architecture (EPA) - to the Type 133 and future Type 134 crossover.

Kershaw referenced the suspension technologies - "active roll control, CDC [continuous damping control], air-sprung independent active rear steer and active aero" - as features that most obviously mark the aluminium EPA out as the more dynamically oriented

platform in the Geely stable.

He said those systems have been "package-protected" for "everything we want to do" with future electric cars, suggesting the Type 133 will follow suit with a similar set-up.

"Our type of car - that we want to drive as well as it looks - requires all that technology," said Kershaw, hinting that the 'lifestyle' positioning of the EVs built by Lotus Technology - a separate division based in Wuhan, China - won't come at the expense of driver engagement.

FELIX PAGE



ABARTH 500E ON SALE AT £39K

Abarth's first electric car is also its most expensive yet, with the 152bhp 500e hot hatch touching down in the UK at £38,695. That price is for the limited Scorpionissima launch edition, which can be had in vibrant Acid Green and Poison Blue and is equipped with 18in alloy wheels, a panoramic roof and steel pedals.

OFFICIAL PICTURE



Distinctive Type 133 looks similar size to successful Taycan



Saloon is one of the Lotuses from Wuhan, not Hethel

MEANWHILE, OVER AT POLESTAR...



Following a starring role at last year's Goodwood Festival of Speed, the new Polestar 5 sports saloon has entered an advanced stage of testing ahead of its 2024 launch. Using a bespoke aluminium platform developed at Polestar's R&D base in the UK (at the MIRA proving ground), the 5 will offer performance roughly on a par with that of its Geely relation, the Lotus Type 133, packing as much as 874bhp and 663lb ft.

FRESH START FOR AC COBRA

Britain's AC Cars has shown an entirely new, radical interpretation of its iconic Cobra. With 654bhp from a blown V8, an extruded aluminium chassis and a carbonfibre body, the Cobra GT Roadster will be "a highly accomplished and usable [touring] sports car" when it arrives in 2024, priced at around £285k. Full details are due in April.



UNDER THE SKIN JESSE CROSSE

NO PRESSURE, BUT IS IT TIME WE SWITCHED TO AIRLESS TYRES?

Michelin says airless technology could save 200 million tyres a year from an early grave due to punctures.



WILL THE DAY come when we're all routinely driving around on airless tyres? Do we even need them? Tyre makers have been tinkering with the idea of reinventing the wheel for a number of years now, but so far the brainchild of Scotsmen Robert Thomson and later John Boyd Dunlop, inventors of the pneumatic tyre, has not been bettered.

In January, Michelin announced the Uptis, its concept for a puncture-proof tyre, would go on trial in Singapore on a fleet of DHL vans. The Uptis airless tyres will be introduced during the course of 2023, the plan being to overcome the costly problem of downtime and tyres scrapped through punctures on last-mile delivery vehicles.

The trial raises the question: could the puncture-proof tyres be an advantage for car drivers? Michelin says the tyres are intended for cars as well as light vans and says they are more resilient to 'road hazards' than run-of-the-mill tyres. Because there's no air involved, the Uptis will also overcome the problem that plagues not just delivery fleets working on a high-duty cycle but the average car driver too: neglecting tyre pressures. Pneumatic tyres rely to a large degree on being run at the correct pressures to perform properly.

Allowing a drop below the design pressure reduces grip, impairs handling and steering, and increases rolling resistance and with that energy consumption and CO₂ emissions. Poor tyre maintenance also causes premature and uneven tyre wear and uneven tyre pressures around the car can influence stability under braking, especially in the wet. So all in all, poor tyre pressure maintenance is bad news, dangerous if taken to extremes and expensive even if not.

Like most tyre companies, Michelin is working hard on the sustainability of its tyres, especially in relation to end of life, and is experimenting with the use of sustainable materials. It sees airless technology as a good fit with its "fully sustainable tyre by 2050" mantra, pointing out that 12% of tyres are scrapped early due to flats and blowouts and another 8%

through premature or uneven wear due to poor tyre pressure maintenance. The company reckons airless technology could save 200 million tyres a year.

Michelin already has some experience with airless tyres. The Tweel employs airless radial tyre technology but its use is limited to off-road vehicles such as those used in the construction industry and for load handling.

On a strictly concept level, Goodyear showed its Aero airless tyre concept back in 2019. Resembling the Uptis and Tweel, it features radial deformable spokes for support in place of air, betwixt tread and wheel. The Aero goes one step (quite a big step actually) further and also rotates to the horizontal, so the spokes become fan blades to generate thrust and lift an autonomous, flying car into the air.

A less far-fetched feature, and one that tyre manufacturers are taking seriously at a research level, is the use of sensing tech to monitor road conditions, wear and the structural integrity of the tyre.

VW NOW EV BRAIN SURGEON

Volkswagen is aiming to make every component in its EVs in-house to increase efficiency through perfectly matched components. It has designed its own 'pulse' inverter, the brain that controls battery and motor in an EV, from the ground up, including software. The new inverters are modular and work with entry-level as well as 670bhp performance cars.



Self-driving cars put on ice

Tech firm is ramping up work on autonomous vehicles but has shifted focus away from public roads



Microbus shuttles will become common on roads, says Oxbotica

British technology firm Oxbotica is leading the charge towards autonomous vehicles, which it believes we could see out and about “over the next number of years”, but it isn’t focused on cars, instead looking at “where the world needs [autonomy] the most”. This includes jobs that are dangerous, mundane

and very specific, said CEO Gavin Jackson: “Our vision is to unlock the value of self-driving technology but where there are the most pressing and urgent requirements.”

Jackson added that the Oxford-based firm has adopted a more strategic approach to self-driving, which it terms “universal autonomy”.

This move away from cars

comes despite Oxbotica having a proven pedigree in developing tech that works on public roads – as was demonstrated by participation in the UK government-backed Project Endeavour in 2021, in which level-four Ford Mondeos were trialled in Birmingham, London and Oxford. But it mirrors the industry trend, the allure of self-driving cars having faded.

Last year, major makers pulled back on investment. Most prominently, Ford and the Volkswagen Group ended their backing for autonomous vehicle developer Argo AI to focus instead on their own driver assistance tech.

Meanwhile, there is clearly an appetite for autonomous tech away from public roads. In January, Oxbotica secured

\$140 million (£116m) of extra funding, mostly from existing shareholders BP Ventures, Ocado and ZF – all of which will benefit from different applications of its tech.

Jackson said: “You will see smaller vehicles doing specific tasks for the likes of BP on solar farms, wind farms, refineries and suchlike, where there are requirements for surveillance,

Geely to take on establishment with luxury model line

OFFICIAL PICTURE



Geely Galaxy Light EV concept previews E8, coming this year

GEELY HAS ANNOUNCED a new luxury sub-brand, Geely Galaxy, to showcase its latest technological advancements.

Galaxy, described by the Chinese giant as a “high-end electrified product series”, is planned to offer seven cars by 2025: four long-range plug-in hybrids and three EVs.

The first of them, the Galaxy L7, is a plug-in hybrid SUV scheduled to go on sale in China this summer. It will be followed by the L6 PHEV saloon in the autumn.

All Galaxy PHEVs will be based on the E-CMA platform, which Geely developed with

Volvo and already underpins cars including the Polestar 2 and Volvo XC40 Recharge.

The first Galaxy EV, the E8, will also go on sale this year. It will use what Geely has called a “dedicated smart electrified architecture”, expected to be derived from the SEA platform that underpins EVs as varied as the Lotus Eletre, Smart #1 and Zeekr 001.

The E8 is likely to be the car previewed by the Galaxy Light concept (pictured), a fastback similar in profile to the Porsche Taycan, featuring a tech-laden interior and rear-hinged butterfly doors.

“Oxbotica will deliver trucks that do the dirty, dangerous, mundane and challenging work”

for example. The application of autonomy will mean that no human needs to waste their time driving up and down a solar farm.

“You will see shared mobility shuttles here in Europe and in the US driven by Oxbotica with companies like NEVS [the Sino-Swedish company that rose from the ashes of Saab], ZF and others.

“And you will see groceries delivered over the next number of years as well [with Ocado].”

Another partner is Wenco, a Canadian firm that manages fleets for heavy industries. This relationship will deliver “trucks driven by Oxbotica that are doing the dirty, dangerous, mundane and challenging work of mining, quarrying and aggregate collection”.

Jackson considers the tech that Oxbotica offers to be an operating system with many different applications, citing Microsoft's Windows as a comparison.

“We've been developing the general platform for different applications,” he said, “which means that we can time-order the applications that are going to deliver value first and fastest. And that's typically off public highway to start with, on public highway in very limited terms and then over time gradually getting more and more complex.”

This means Oxbotica's tech will be able to work for an array of transport applications, including cars. However, the time for that isn't now, said Jackson. Instead, “the world

is pivoting to applications of autonomy where the needs are greatest”.

“We see passenger cars and robotaxis as being a viable application in time; it's just not the first,” said Jackson. “But you will certainly see vehicles on public highways driven by Oxbotica that carry humans.

“The most urgent need for human passengers in urban centres is shared mobility – so the form factor of those vehicles will be shared mobility, minibuses and shuttles that will leverage existing infrastructure like bus lanes.”

Jackson expects Oxbotica to play an integral role as the development of vehicle autonomy continues. But he feels that even two decades from now, we are unlikely to see the sort of self-driving utopia that some people once envisaged for public roads.

He said: “Off public highways, autonomy will continue to solve many, many more complex challenges. The new normal over the next 20 years will be that there's an augmentation between human- and software-driven machines that do the work that's dangerous, dirty and hard to supply in the job market. On public highways, you will see cities augment their fleets with a lot more fixed-lane, shared-mobility microbus shuttles.

“And on what we currently refer to as driver-assistance capabilities – where the human has been responsible for the experience and the software in the vehicle is doing some of the driving – I think that the balance between human responsibility and software responsibility will shift further towards software. But not completely.”

GRAHAM HOPE



Dedicated AVs will patrol heavy industry sites



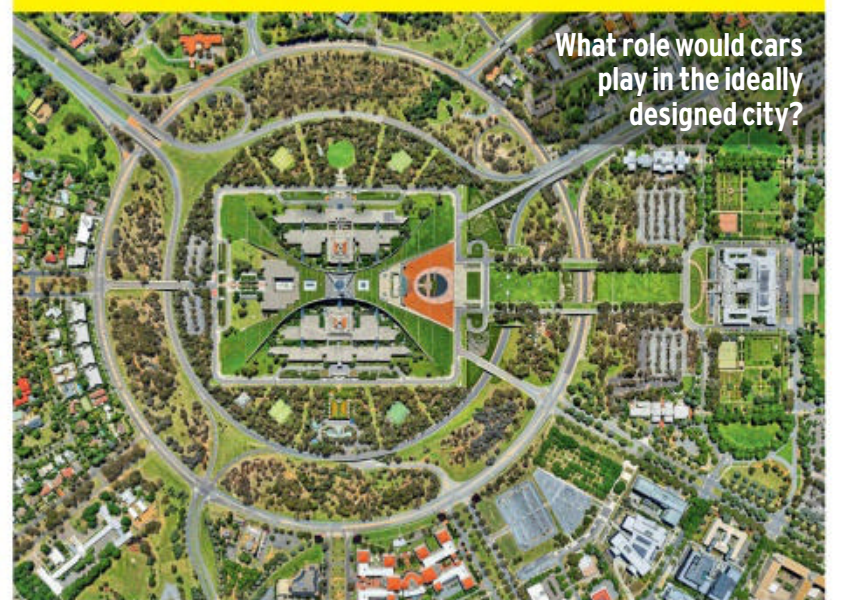
DACIA TURNS JOGGER INTO A SLEEPER

Ever thought the Dacia Jogger would make a good budget camper van? Well, the Romanian firm has added a fold-out double bed inside the seven-seat MPV as part of its new optional Sleep Pack. Fitted in place of the rearmost row of seats and folding on top of the second row, the 50kg addition also includes a 220-litre storage box. Just add duvet and pillows.



Jim Holder

INSIDE INFORMATION



What role would cars play in the ideally designed city?

THE GOVERNMENT. THE World Economic Forum. Socialists. Russia. China. The French. Lizard Kings. In a world where anti-vaccination fervour has largely lost its point, all these and more have been accused of inventing the latest *bête noire* of the angry: 15-minute cities.

It seems an unlikely cause to rile against. In its purest form, a 15-minute city is one that has been planned so that all the amenities are within a 15-minute walk or cycle of where any resident lives. Dive deeper and there are more surely laudable goals, from removing social divides through better planning to engaging citizens so that they prize their surroundings, plus providing connected public transport solutions and high-speed internet for all.

Even among us car enthusiasts, who wouldn't prefer to walk or cycle to the shops, gym, school or doctor, using car-free routes without any worry, because the threats of being run over and inhaling noxious fumes have been removed from the vicinity? And who of a fair mind would stand in the way of increased equity and equality, including on that enticing but rarely delivered prospect of affordable and reliable public transport?

The crux appears to be whether the car has any role at all to play in this vision. Local authorities, eager to be among the first-movers, are taking a particularly hardline approach to implementation, with draconian plans to close and limit access to roads, restrict cars to set numbers of days and more in order

to force a change in habits. Bristol, Birmingham, Canterbury, Ipswich, Oxford and Sheffield are at the vanguard in the UK.

Ardent supporters justify this all-or-nothing approach on the grounds that they need to force change, from how we use the space taken up by roads and cars through to the climate emergency.

In contrast, protesters claim it's an attempt to remove long-held freedoms, at their most extreme alleging the idea has been dreamed up as part of an ongoing attempt by dark forces to restrict movement back to lockdown levels.

Either side might be right but, as is so often the case, the most constructive outcomes probably sit in the grey area in the middle. No question, the car has a lot to answer for, causing pollution, congestion, injury and death. However, it's also irrefutable that the advent of the affordable personal car has opened up endless opportunities, supercharging social and economic growth, broadening our horizons and more.

Given the electric car and green energy can provide so many solutions to today's concerns, the answer surely lies in allowing the best of both sides of the argument: removing them from the areas to which they are least suited but allowing them to thrive elsewhere.

The greatest risk of all is not the implementation of the 15-minute city but such polarised arguments about their make-up not allowing for a considered approach to prevail.

Vehicle parts theft on the rise

Criminals are stripping parked cars in the Midlands to cash in on spares shortage

Thieves who had been stealing high-value cars are now targeting and stripping smaller cars in a major region of the UK as demand for parts grows.

A dearth of spare parts, due to supply problems caused by the pandemic and the war in Ukraine, has fuelled this, the head of West Midlands Police's Vehicle Crime Taskforce (VCT) told Autocar.

In January alone, nine cars parked in the Birmingham area - including three Citroën C1s - were pillaged, with parts including body panels taken. At least three more cars had been targeted in the months leading up to Christmas.

Among the most recent victims was Samantha Rose, a nurse, whose Renault Clio's bonnet, lights and other parts had been taken from outside her Selly Oak house in the early hours of 30 January. Two other cars had been targeted in the same area that night.

Many of Rose's colleagues had also been victims.

She said: "It's being done in broad daylight [in the hospital car park] while they're doing a 13-hour shift. They're coming out at night and their cars have been stripped."

This surge in car crime has been brought on by the growing demand for spare parts, according to detective superintendent Jim Munroe.

Munroe, who leads the VCT, said: "What we've seen over the last 12-24 months is an increase in vehicle crime, particularly theft of motor vehicles, and that is being caused by what we believe to be a parts shortage and supply issues after the pandemic and because of the war in Ukraine."

Since being formed last September, his taskforce has recruited 35 officers and staff.



Drivers are returning to parked cars to find them in states like this

IS CAR PARTS THEFT A NEW THING?

We have seen this before. Car parts thefts first came to national attention in 2013 when Vauxhall Corsas were targeted, leading police to coin the term 'Corsa cannibals' to describe the thieves. They believed demand for the stolen parts was being fed by young and inexperienced drivers in need of cheap parts for their cars following accidents.

The phenomenon died away until summer 2018, when the Corsa cannibals



struck again with a spate of parts thefts in Solihull.

Over one weekend, thieves stripped bonnets, grilles and headlights from four Corsas, bringing the total number of reported offences in the period to 11.

During just one week in February, the team arrested more than 50 suspected car criminals across the region.

Although it's most prevalent in the Birmingham area, parts theft is rising across the UK, according to LV General, which has seen an increase in motor insurance claims associated with the theft of parts.

It said that since 2017, theft of steering wheels has risen by 133%, with demand for airbags, gearlevers and dashboard components also doubling.

The average claim cost for a steering wheel and airbag is around £7000. The most expensive claim was £41,000

for a vehicle that had to be written off when its entire dashboard was stolen.

LV said thieves are selling stolen parts to garages who then offer them to customers at significantly lower prices than equivalent new ones.

LV underwriting director Alex Hammond-Chambers-Borgnis said: "We're seeing an increase in the theft of spare parts by opportunistic thieves keen to make some extra cash. This is also being fuelled by the fact that car parts are currently in very high demand as a result of global supply chain disruptions."

JOHN EVANS

Saved Britishvolt plots next steps

BRITISHVOLT HAS BEEN sold for an undisclosed fee to Australian battery start-up Recharge Industries, which has plans to revive the failed gigafactory project in Blyth, Northumberland.

Britishvolt, which fell into administration in January, will

now use Recharge's preferred battery technology - licensed from American firm Charge CCCV - rather than that which was in development under the original British ownership.

It aims to begin making cells for energy storage by the end of 2025, then add automotive

clients to its portfolio later.

Britishvolt previously held memoranda of understanding with Aston Martin and Lotus.

David Collard, founder and CEO of Recharge parent firm Scale Facilitation, said: "We're confident of making the [Blyth] gigafactory a success."

Blyth site has access to deep sea port and renewable energy



INDUSTRY
FRONT LINE

AUTOCAR BUSINESS

This week's biggest stories on [autocar.co.uk/autocar-business](https://www.autocar.co.uk/autocar-business)



ARE HD MAPS KEY TO SELF-DRIVING CARS?

High-definition maps that locate a car to centimetre precision (rather than the metres offered by regular maps) could be the key to unlocking autonomous driving capabilities, some firms say, but GM, Tesla and more believe it should be the car's job to perceive hazards while on the move using cameras and sensors.

CAN FIRMS MAINTAIN HIGH PROFITS WHEN DISCOUNTS RETURN?

As the new-car shortage eases and competition rises in turn, is the era of zero discounts (and the high profit margins this has yielded) over? Maybe not: given that various makers have spent the past few years trying to cut costs, they may still make huge profits as market forces (like high energy costs) fall.



LIVE WEBINAR: WHY DEALERS ARE MORE VITAL THAN EVER

Join us at 11am on 23 March for a free webinar as Tony Whitehorn, former CEO of Hyundai UK, and Matthew Patchett from automotive customer experience firm Reputation discuss why the in-person dealer experience is more crucial than ever. Sign up on our website.



Matt Prior

TESTER'S NOTES

GTI enthusiasts have finally outstayed their welcome at Wörthersee



It all started with the actor Erwin Neuwirth – sort of like an Austrian John Nettles only not as famous, as I understand it. During the summers of the early 1980s, he ran a bar in the pretty town of Reifnitz, on the shore of the Wörthersee, and he liked driving his Volkswagen Golf GTI around the place.

“I found the contrast between the peaceful banks of the lake and the powerful vehicle so appealing,” he said. So much so that he invited some GTI-owning mates over for a gathering in June 1982. Around 100 showed up.

Three years later, 1000 GTI-ists were arriving annually for a miniature car festival, which must have been pretty good business for the bar.

And when in 1987 Volkswagen CEO Carl Hahn commissioned a granite Golf GTI to donate to the town, the festival was firmly established.

And it grew. By the mid-2010s, it was even sponsored by Volkswagen, with official attendances topping 100,000



Cars and visitors would swamp the Austrian resort

GTI-ists would camp, party, make some noise and drink a lot of beer. Maybe a bit too much

but estimates of visitors to the Maria Wörth region twice that number.

People came in modified VW Group cars not just during the weekend-long festival but in the weeks around it too: camping, partying, making some noise and drinking a lot of beer.

Maybe a bit too much. The outbreak of the pandemic precluded the 2020 festival. The organisers vowed they would “look forward to an enjoyable event in 2021”, but this was canned too. And so was 2022’s, this latest one ostensibly because of Covid but ultimately not because of it at all.

“In recent years, the municipality of Maria Wörth has carried out intensive concept and planning work for the design of the future of the Reifnitz district and initiated a comprehensive transformation process,” bored a recent release from the district council in which it announced that the festival had been cancelled for 2023 and wouldn’t be welcomed back.

It cited sustainability and climate change as chief among its reasons, but that’s an awkward stance for a tourist destination to take unless it insists that all visitors arrive carbon-neutrally.

I don’t like hiding behind those things as an excuse to not do things. My take is that they don’t like what comes with this big celebration of the hobby and they should own it.

Even attendees accept the festival has issues. Lots of people arriving means loud cars, bad driving and bad drinking. In the absence of the official event in 2022, a number of people went anyway and the police had to confiscate 400 numberplates (thereby issuing temporary driving bans).

Reifnitz isn’t a big town and, 40 years after the first event, the locals who don’t find “the contrast between the peaceful banks of the lake and the powerful vehicles” so nicely balanced as in Neuwirth’s time have found their reasons to see the festival off.

But, fast fest fans, don’t fret just yet. Step forward Volkswagen itself.

“Our GTI fans are of great importance to us,” said Imelda Labbé, the firm’s sales and marketing chief, adding that following the cancellation “we decided pretty quickly to offer the GTI fan community a new home for the event in Wolfsburg”.

No date has come yet (although it’s mooted to be 2024 rather than this summer), but the festival lives on, while the granite Golf GTI on the Wörthersee shore can gently reverberate to the sound of silence.

GET IN TOUCH

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AUTOCAR

MY WEEK IN CARS



**Steve Cropley
& Matt Prior**



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Steve Cropley

MY WEEK IN CARS



Electroflight's Targett with the record-setting Spirit of Innovation

MONDAY AM

Electric cars may be thriving, but what's the case for electric aircraft? A glimpse came today at Gloucestershire airport, where I was invited to view the record-breaking single-seat Spirit of Innovation, built by a Formula 1-style high-tech business called Electroflight, powered by Yasa (via its Evolito aerospace arm) and backed by Rolls-Royce. Its three unbelievably compact axial flux motors, yielding 535bhp, recently propelled it to an official speed record of 345mph. Soon you'll see it hanging up in the Science Museum. What next? Electroflight's founder, Roger Targett, is stacked out with aero-taxi projects – many intended to take over car roles – and reckons reality is close.

MONDAY PM

Our 'Evening with the Lotus Emira' at the British Motor Museum went with a swing and was attended by nearly 300 keen and knowledgeable enthusiasts, some of whom already had Emiras on order. Lotus design VP Peter Horbury, design director Russell Carr and director of attributes Gavan Kershaw all spoke brilliantly but what dazzled me was the sense of community and common cause radiating from this group. If I could have packed every Autocar reader into that space, just to feel the ambience, I'd have done it. Most people believe car love is based on shapes, sounds, heritage and dynamic appeal. But the older I get, the more I reckon it's about being with people you like and respect.

TUESDAY

There's fast-accumulating evidence that the Qataris plan to use monetary incentives to underpin the success of their forthcoming 'Geneva' motor show. That set a few of us talking. Some drew parallels with the recent

Its three compact motors propelled it to 345mph

Fifa World Cup, widely labelled as an example of 'sportswashing'. What label might the motor show attract, someone asked, and the answer came back instantly from five directions. Car washing, of course...

WEDNESDAY

The Austin Maestro, a spacious and good-handling car for which I feel a creeping nostalgia, turns 40 today. It's ironic, but back in the early 1980s British Leyland thought it had a viable Golf rival, and our early experience suggested it might be right. Even the engines and the gearchange weren't too bad. Quality problems and dud dealers quickly scuppered the Maestro's chances, but I still harbour fond memories of that initial optimism, similar to the 'Britain first' stuff that lingered from the Metro's

AND ANOTHER THING...

Interesting Vauxhall Astra discovery: you have to keep cleaning its headlights even when the rest of the car is clean. The excellent new 'Vizor' nose sets the high-tech headlights vertically to the road, which is unusual. They're optically terrific, but things tend to go dim in filthy weather. On-board rags are essential.



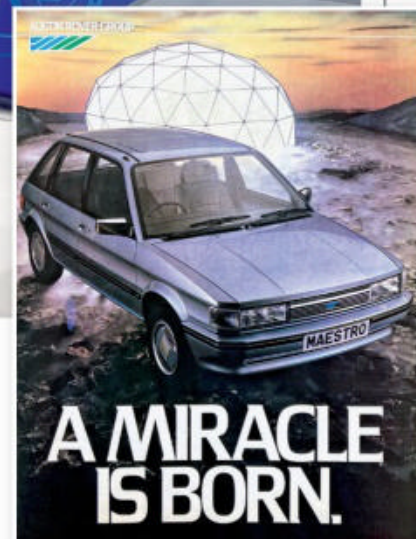
debut a couple of years earlier.

Mind you, we should have known the end would be sticky. I went to the first press launch in Spain, where we waited an hour outside the hotel while hapless mechanics worked their way along the waiting line of test cars, making last-minute changes to throttle springs (which some bigwig had deemed too soft). Then someone upended one into a ditch and the tale of woe began in earnest.

THURSDAY

When I read last week about a revolutionary Volvo plan, dreamed up by new broom CEO Jim Rowan, to select as its new design boss someone with zero experience of drawing cars, I felt a stab of concern. History is littered with people, successful in other walks, who've tried cars and failed. Dyson, where Rowan worked before, is an example.

Rowan's plan does make sense, though. It's a good move to shift Volvo away from hyper-influential Thomas Ingenlath, now established at Polestar. And there's big appeal in tapping into the wide vision of product designers, including new boss Jeremy Offer. But I'm also aware of a scary breed of top managers who arrive at new jobs with 'Change Everything' at the top of a short agenda. I'm not suggesting Rowan and Offer lack specific objectives but I do hope they'll reveal them soon. Volvo needs continuity.



Maestro, now 40, held promise, but not for long

GET IN TOUCH

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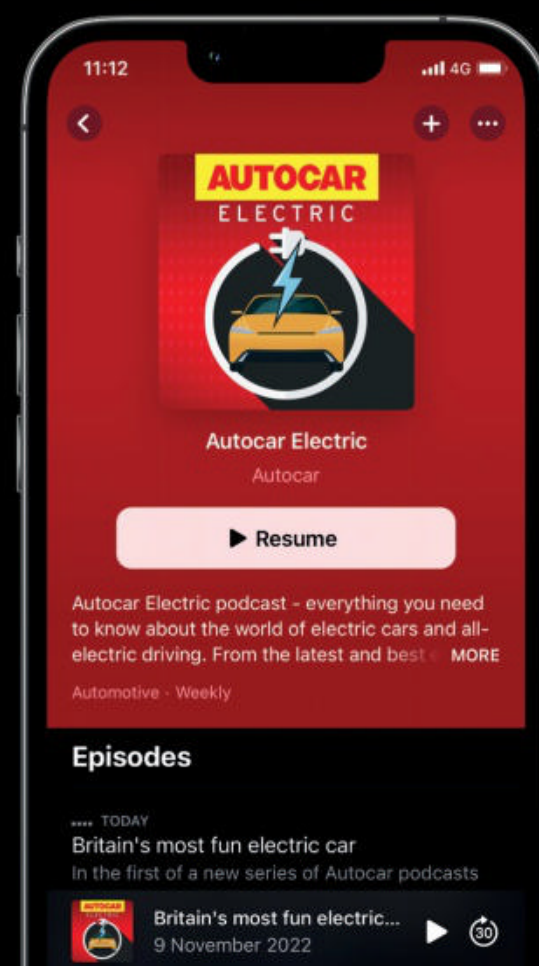
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Damien Smith

RACING LINES



Félix da Costa
rediscovered star
quality in Cape Town

When António Félix da Costa brilliantly sliced past Nick Cassidy to take the lead of the inaugural Cape Town ePrix, I thought maybe I wouldn't see a better passing move all year. Until he did it again as the Formula E race neared its climax. The second time, the Porsche driver caught DS Penske's Jean-Éric Vergne by surprise through the fast sweeps of Turns 7, 8 and 9, aggressively attacking on the outside for the first right-hander, which put him on the inside for the next left. It was an inspired move, as Vergne admitted, earning Félix da Costa his first win since he switched to Porsche in the best way possible.

AN ERROR THEN INSPIRATION

As Vergne pointed out, a mistake inadvertently gave his old DS Techeetah team-mate the edge as the pair raced for the win in Formula E's first visit to South Africa. Félix da Costa had missed the activation loop to take his second mandatory dose of Attack Mode power boost. Drivers have to run offline through a special zone to pick up the extra 50kW, which usually means they lose track position, yet such was Félix da Costa's advantage that he initially remained in the lead. But missing his entry point meant no boost, so he had to try again – and that time

Vergne slipped ahead. It looked like it had cost the Portuguese victory. Except now he had the slipstream on the quick street track. That allowed the Porsche to save crucial energy for a late attack.

But Félix da Costa still had to summon a monster move to win, and against a renowned master of defence. Vergne was heading for his second consecutive victory, having held off a late charge from Cassidy's Envision Virgin entry two weeks earlier on the streets of Hyderabad in India. This time, he had no answer to Félix da Costa's inspired move.

"I knew it was going to be a strategic one," said Félix da Costa. "I've done this before where you have to give that lead away and plan a late move in the race. The energy was playing a big part, and so following was a bit of an advantage.

“
I was initially a little underwhelmed by the Gen3 cars, but this was genuinely great motor racing
”

I wanted to be behind him for a few laps to build that energy advantage and use it, but I know leaving it late is always a risk, and Jev [Vergne] is a very hard guy to overtake. I thought I was gone for a moment there [on the brakes] into T9! But it's good to race him on a day like this."

Give Formula E its due. When I saw the new-generation cars in the metal at the opening round of season nine in Mexico, I was left a little underwhelmed by their lack of presence. But here in Cape Town, on a pleasingly fast, bumpy and difficult street track that represents Formula E's natural environment, the Gen3 electric single-seaters put on a proper show. Capped by Félix da Costa's assertive moves, this was genuinely great motor racing.

OUT OF THE SHADOW

Félix da Costa won the Formula E title in the 2019/2020 season, so he has nothing to prove at this level. Yet Cape Town was a big win for him, because up to this point in 2023 he had found himself cast in the shadow of new team-mate Pascal Wehrlein.

The German's twin victories in the Diriyah double-header in Saudi Arabia left him with a healthy points advantage, in a season where Porsche's new powertrain has so far proven to be the one to have. Of the five rounds run so far, Vergne has

been the only non-Porsche-powered winner, which has gone some way to dispatch the German giant's first two lacklustre Formula E seasons as increasingly distant memories.

Such is Porsche's rich motorsport heritage that we simply expect it to win at whatever it turns its hand to. Finally in Formula E, it's living up to those high standards.

Wehrlein had a day to forget in Cape Town, though, as he ploughed into the back of Envision Virgin's Sébastien Buemi under heavy braking on lap one. The Swiss veteran recovered from the barriers to finish an admirable fifth, but Wehrlein's race was run.

Still, he got lucky. Mexico City ePrix winner Jake Dennis, driving for Porsche-powered Avalanche Andretti, was the last classified runner in 13th after picking up a drive-through penalty for what they call an overpower violation.

That means Wehrlein still tops the standings with 80 points, 18 ahead of Dennis. Vergne's second place was a decent consolation for his defeat, and he's third, 30 points down on Wehrlein, with Félix da Costa vaulting up the order to make it three Porsche-propelled drivers in the top four.

They head to São Paulo next for a race on 25 March – a third consecutive new venue and the first ePrix to be held in Brazil.

The background of the entire page is a photograph of two sports cars, a red one in the foreground and a green one in the background, driving on a winding road. The road is asphalt with a white dashed line. In the background, there is a steep, rocky hillside under a cloudy sky. The red car is a Porsche Carrera GT, and the green car is a Porsche Carrera GT. The green car's license plate is RK21 DHU.

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FIRST DRIVES

NEW CARS TESTED AND RATED

TESTED 7.2.23, BAHRAIN INTERNATIONAL CIRCUIT PRICE £2.5 MILLION ON SALE SOLD OUT

ASTON MARTIN VALKYRIE

On paper, it looks amazing: design by Adrian Newey, atmo V12 by Cosworth, F1-grade detail and all road legal. So what's the reality?

Has it been worth the wait? We first told you about the joint plans of Aston Martin and Red Bull Racing to produce a hypercar – designed by Formula 1 ace Adrian Newey – all the way back in 2015. The journey from there to here has been long and complex, with the Valkyrie project outlasting the tenure of two Aston Martin CEOs. But now, with most of the 150 customer cars delivered, we are finally getting a turn behind the wheel.

And what a turn it is. The Bahrain International Circuit might seem to offer a limited opportunity to sample any car for the first time, but it is one of the few venues capable of allowing the 1140bhp Valkyrie to stretch its legs. The first question is answered long before I leave the pit lane for the first time: yes, this is undoubtedly the most extreme factory-built car to legally wear numberplates. Other cars might be within the frame of reference of its astonishing performance – but none of them is road legal.

To call the Valkyrie a tour de force sells it short. Pretty much every part of it is a testament to Newey's refusal to compromise

his original vision. Aston chief designer Miles Nurnberger, freshly returned to the sports car maker from his brief stint as Dacia's styling boss, recalls having to quote millimetres with decimal places in discussions with Newey to prove his team weren't being slapdash with the Valkyrie's closely guarded dimensions. In one meeting, he extracted an unprecedented 8mm concession to expand the passenger compartment – something that won a round of applause from the engineering team.

Not that the finished car feels in any way spacious. I rode in the Valkyrie in 2021 sitting next to then CEO Tobias Moers on the hill at the Goodwood Festival of Speed and the experience showed that two occupants are never going to be able to share the narrow cockpit with any semblance of comfort, although I suspect owners will have no difficulty finding volunteers willing to squeeze themselves in.

It is much better with a single occupant, beyond the indignity of limboing over the huge side pods and narrow door. Once installed, leg room proves reasonable – ➔





Pressing the throttle gives instant response from the V12 and the high-speed performance is ferocious

← the pedal box moves – although the footwell is tight. Elbow space is constrained by the side of the tub, and the need to wear a helmet means the bucket seat's minimal lower padding has been removed to stop my head from hitting the roof. This is at a less than lanky 5ft 11in.

The view from the driver's seat is like sitting in a high-tech Group C racer. The Valkyrie's canopy-style windscreen seems impossibly curved. (Creating a windscreen wiper mechanism that turns the blade to maintain contact was another tricky engineering challenge required for road homologation.) A small video screen sits at each side for the rear-view cameras and there's a small touchscreen, Aston's first.

Almost all the controls are integrated into the squared-off steering wheel, including toggles for the three chassis settings – Urban, Sport and Track – plus the ERS button, which gives a boost of recovered electrical urge through the 141bhp electric motor that sits between the 6.5-litre V12 and seven-speed sequential gearbox. The e-motor also works to fill the torque gap between gearshifts.

The good news in Bahrain is that the Valkyrie's active suspension system and stability control are now functional. They weren't when I rode shotgun at Goodwood. In Track mode, the Valkyrie reduces its ride height to improve downforce, which is managed by an array of active winglets and



Most of the controls are on the wheel; note the video screen 'side mirrors'

“
Even on an empty track, getting to
full throttle feels like an adventure
”



TESTER'S NOTE

Cosworth says that the engine is designed to last 50,000 miles before a full rebuild. It's hard to imagine any Valkyrie travelling so far, but let's hope some owners regard that figure as a target. **MD**



Duff gets the lowdown on all the controls before his first run

flaps that are able to produce a collective peak of up to 1100kg of aerodynamic assistance.

There is no surprise that the Cosworth-developed V12 is the highlight of highlights. Even starting it feels special, as the engine turns for several seconds before it fires to build oil pressure. Although I'm wearing a helmet, it is still savagely loud at a 1000rpm idle – with another 10,000rpm to go – and vibration zings through the seat. The cogs that drive the gear-driven camshaft sit at the bulkhead end of the V12, so they're just inches behind occupants' heads.

Getting rolling is easy. The axial flux motor of the hybrid system that sits between engine and gearbox can provide low-speed drive for manoeuvring – one of the reasons there is no reverse gear. The Valkyrie isn't electric enough to power itself with the engine off, but it rumbles off the line smoothly until the clutch engages.

Even on a wide, open and otherwise empty track, getting to full throttle feels like an adventure. Pushing the throttle delivers a visceral thrill from the speed at which the engine reacts. There is no delay, just instant thrust, delivered at a rate that feels close to the immediacy of a high-end EV but continues to grow as revs rise.

For much of my first stint, I'm short shifting, my brain ordering higher ratios in response to the noise and savagery well before the first of the change-up lights has illuminated. It's only on the track's longer straights that I can initially summon the discipline to hang on for the altitudinous redline, by which time the V12 is almost painfully loud, even through the padding of the helmet. The forces are such that the ERS button is an anti-climax: pressing it on the longest straight doesn't add appreciably to the thrust.

It is also psychologically hard to keep accelerating to the ends of the longer straights, because the rate of change is so great that it becomes difficult for my brain to juggle the increasing speed with

the obvious need to slow down. My early braking points prove embarrassingly cautious, given the power of the huge carbon-ceramic discs. But the brake pedal has a slight feel of deadness at the very top of its travel, limiting initial confidence, and you can feel its resistance lessening at the end of some bigger stops. With faith built, though, braking performance seems undiminished – and, to be fair to the car, it has done multiple stints on track before my drive.

A bigger surprise is the sensation of the engine starting to lose power as coolant temperatures rise to critical levels. The V12 downrates to protect itself when this happens, progressively reducing the redline as it does so. Changing up early for half a lap or so brings the redline on the digital tacho back up. When I return to the pit lane, Aston's mechanics say the car is struggling with high ambient temperatures.

The derating is a small issue and, to be honest, most of my first session on track has been taken up with acclimatising to the hugeness of the performance. Bahrain's turns have served mostly as breaks between unleashing full fury on the straights. So heading back out for a second stint gives me the chance to properly experience the more subtle talents of the car's chassis.

Pure lateral adhesion is one area where the Valkyrie doesn't feel otherworldly, because of its need to wear road tyres. Our test car is riding on Michelin Pilot Sport Cup 2s rather than the more aggressive (but still street-legal) optional Cup 2 Rs. So while grip is huge, it is less than it would be in a track special riding on slicks. This feels most obvious in slower and tighter corners, where the Valkyrie turns keenly but the traction control works hard to maintain discipline on the way out. Increasing speed soon brings downforce and a corresponding sense of dynamic security. But the active suspension means that the Valkyrie never feels heavy or lacking in agility.

Nor does it feel snappy or scary, even when I turn the variable ➔



Acute curve of the screen made engineering a road-legal wiper a challenge



Doors look the part but access is still not straightforward

HOW DOES THE ROAD CAR COMPARE WITH THE TRACK VERSION?

To demonstrate the gulf in performance between the road-legal Valkyrie and its track-only AMR Pro sibling, Aston laid on an AMR Pro with works driver Darren Turner to give a high-speed passenger ride at Bahrain, straight after I'd experienced the regular car. Turner had come to Bahrain fresh from class victory in the Daytona 24 Hours in what he admitted was the much slower Vantage GT3.

The AMR Pro does without the road car's hybrid assistance and has a substantially altered tub. The original idea was for it to spawn an LMDh hypercar race sibling, but that sadly hasn't happened. The cabin is just as cramped for two people as the road car's is, with the need for me to awkwardly fold one of my arms to give Turner elbow room to turn the wheel.

Riding on slicks – and able to generate up to 2700kg of downforce – the AMR Pro is clearly in a different league and its cornering power quickly saps neck muscle strength. It is genuinely hard to imagine too many buyers will have the physique necessary to drive it for anything other than short periods.

At the end of Bahrain's 1km-long main straight, the digital speedo was showing 200mph, with Turner grabbing seventh gear for a second before braking well past the 150m board for the first-gear turn one. Extraordinary.



← traction control down. This confirms that the transition from grip to slip, although sudden, is well flagged and easily corrected – certainly at relatively low speeds. Of course, this is on a bone-dry track with generous run-offs. A wet B-road would be a very different challenge. But the Valkyrie's chassis seems impressively friendly considering the forces it has to contain and direct.

Not that any chumminess is present in much of the rest of the experience. The cabin feels tighter after a stint on track, with multiple points of painful contact under higher g-loadings. And while the chassis' Urban mode softens the suspension, it definitely doesn't make the Valkyrie plush. Cruising around for the photos gives me the chance to switch from a helmet to the active noise-cancelling headset Aston recommends for road use. This works amazingly well – so well in fact that I pop an earpiece off at 4000rpm to see how loud the engine truly is. The answer is 'ouch': you couldn't spend any time in the cabin without wearing some form of protection without risking hearing loss. Standing on the pit wall while others blast past proves the V12 sounds amazing from the outside, but sadly not from within.

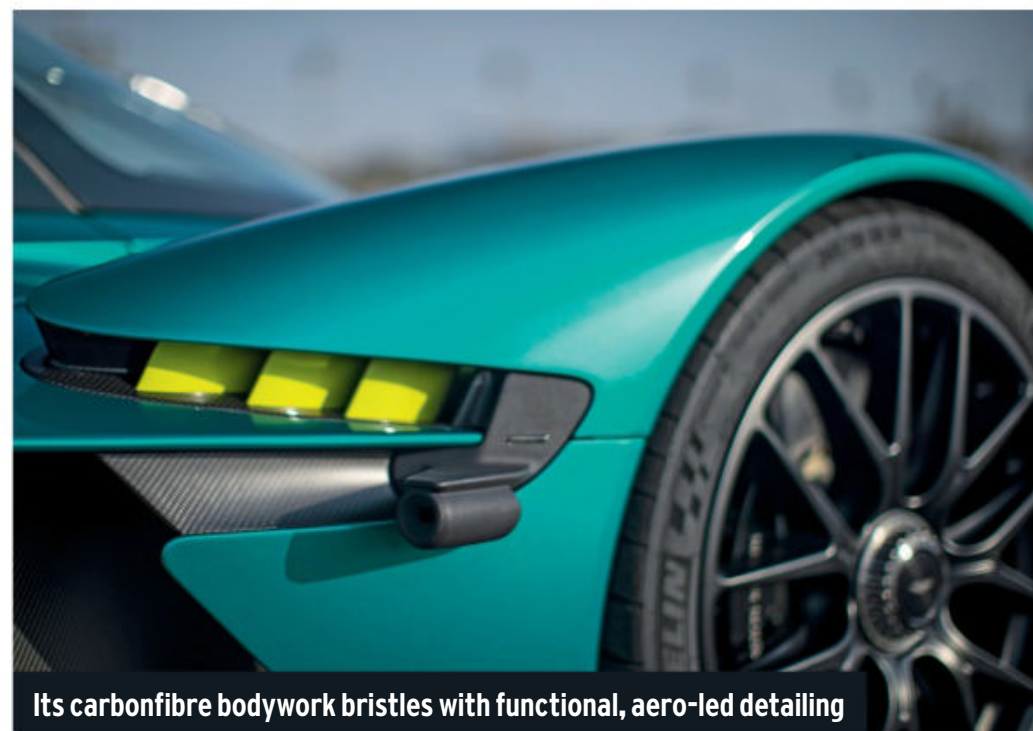
Yet the Valkyrie's compromises are all down to the single-minded vision it was born from, one that hasn't been toned down during the long road to production. The original idea, as with the McLaren F1, came from a meeting of four blokes – in this case, a pub lunch for Aston's then CEO Andy Palmer, chief marketing officer Simon Sproule and Red Bull Racing's Adrian Newey and Christian Horner. Palmer and Sproule have left Aston, and RBR is now working independently to realise another of Newey's fever dreams – the even faster, track-only RB17. Yet regardless of its tortuous gestation, and the divorce between its parents, the Valkyrie feels like a pinnacle – and also a masterpiece.

MIKE DUFF

“The transition from grip to slip, although sudden, is well flagged and easily corrected”



Road-legal tyres provide familiar lateral grip levels but downforce is huge



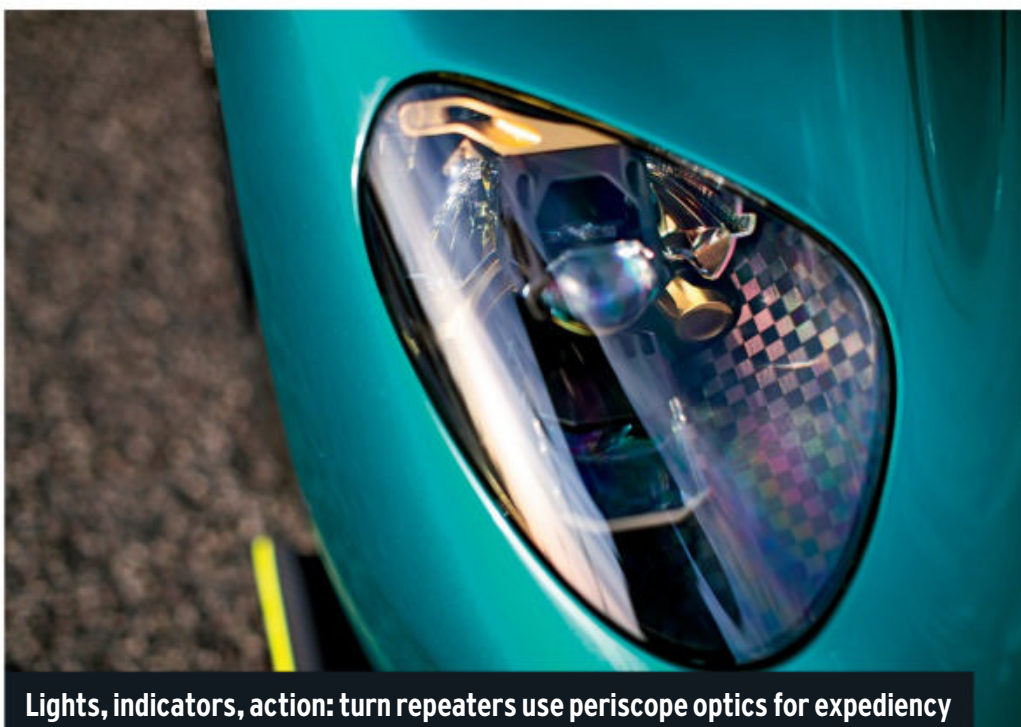
Its carbonfibre bodywork bristles with functional, aero-led detailing



ASTON MARTIN VALKYRIE

No star rating until more varied test conditions but this looks to be the ultimate combustion hypercar

Price	£2,500,000
Engine	V12, 6499cc, petrol, plus electric motor
Power	1140bhp (engine 1001bhp at 10,600rpm, motor 141bhp)
Torque	682lb ft at 7000rpm
Gearbox	7-spd sequential, RWD
Dry weight	1270kg
0-62mph	2.5sec
Top speed	220mph
Economy	na
CO₂, tax band	na
RIVALS	Mercedes-AMG One, GMA T50



Lights, indicators, action: turn repeaters use periscope optics for expediency



Naturally aspirated 6.5-litre V12 makes 154bhp per litre and revs to 11,000rpm

TESTED 1.3.23, ASPEN, COLORADO, US ON SALE NOW

BENTLEY FLYING SPUR SPEED

Sporting version of imperious limousine is final Bentley to use iconic W12 engine

The knell has tolled for the W12. By spring 2024, resources will be switched to making more hybrids as Bentley rushes into its electrified era. Naturally there's a big send-off planned, with 740bhp and 738lb ft squeezed out of the last 18 units, to be used by the Mulliner Batur, which costs £2m and has long since sold out. The more relatable finale, though, comes in the form of the new Flying Spur Speed.

It supersedes the standard W12 model (while a new S replaces the standard V8), and if you want an underwhelming headline, here it is: nothing vital has changed in the process. There's no additional power or, more peculiar still, speed. But then anyone craving more of either after even a short spell in this car probably possesses the kind of appetite that has already accrued the wealth necessary for a Batur.

Spotting the Speed is reasonably simple, its new suffix being stitched into the seats, etched into the sill plates and fixed to the dashboard. Silver details morph into black and the steering wheel is now edged in Dinamica Pure, a 73% recycled alternative to the usual Alcantara.

There's also a unique 22in alloy wheel design, although our car is wearing 21s to accommodate winter tyres here because, to really let the W12 exit with a flourish, we've driven it in the deep snow and high altitudes of Colorado ski country.

Slapstick slides on a carved-out course prove the active four-wheel drive system has your best interests



Turned aluminium abounds while leather is joined by new sustainable textile



at heart. Switch the mode dial into Sport and the rear axle always gets at least 69% of the power; ally such bias to a long wheelbase and big, silly drifts are readily accessible.

But the best news is that you get a small but arguably even more satisfying taster of this ability on road. On these slushy, gritted roads, slightly looser stability-control reins allow just a hint of oversteer in second- and third-gear corners before all four wheels hook up and haul you forth with nary any fuss.

Four-wheel steering allows the Speed to deftly play the role of a sports saloon, albeit one that doesn't stampede firmly across the road, instead working assuredly with it. It's uncannily good fun for a machine nudging 2.5 tonnes, and it's ceaselessly impressive that a car so focused on cossetting comfort can provide such interaction if asked.

That's the crucial bit. At all other times, this is the effortless limo that you would rightly expect it to be, but

the distinct personalities uncovered by switching the mode dial between its default Bentley and Sport provide some neat duality – a duality that's echoed in that departing engine.

Indulge yourself away from a red light and there's a classy snarl and some heart-warming upshift wuffles as the engine and smartly tuned ZF eight-speed automatic 'box combine to provide startling sub-4.0sec acceleration to 60mph.

But the moment your foot eases off the throttle, tranquillity is restored. It sits well below 1500rpm at a 70mph cruise, and that it's just as hushed in sixth as eighth really hammers home how refined it is.

This is a supremely engineered powertrain reaching its zenith, and it's of great credit to the rest of the car's dynamic traits that they meld so convincingly around it to form a deeply satisfying whole. The lighter, freer-revving V8 S is surely yet more dynamic, but a drive in the Speed is sure to be underlined by its context.

W12 build slots are now extremely limited, whichever Bentley you feel like hurriedly slotting one into. I would want it to be this one.

STEPHEN DOBIE

BENTLEY FLYING SPUR SPEED

Nose of this majestic sports saloon might just be the most appropriate place for the W12's retirement party



Price	£208,700
Engine	W12, 5950cc, twin-turbocharged, petrol
Power	626bhp at 6000rpm
Torque	664lb ft at 1350-4500rpm
Gearbox	8-spd automatic, 4WD
Kerb weight	2437kg
0-62mph	3.8sec
Top speed	207mph
Economy	19.1mpg
CO₂, tax band	337g/km, 37%
RIVALS	Mercedes-AMG S63, Rolls-Royce Ghost Black Badge



TESTER'S NOTE

Five years after its debut, Bentley's rotating dashboard remains a joyful flourish. Hiding the touchscreen brings an extra layer of bliss. **SD**

TESTED 2.3.23, WEST SUSSEX ON SALE NOW

FORD RANGER RAPTOR

Hardcore version of Blue Oval's pick-up truck gains a petrol V6 in its new generation

The new Ford Ranger Raptor has landed in the UK, and it's the kind of vehicle that would be happy if you took that literally.

It's a double-cab pick-up with the capability of a Baja pre-runner – the car that rally racers use to scout a course a little more habitably than their actual race truck.

Ford's Performance division can give us the Ranger Raptor because it's excise registered as a commercial vehicle, so Ford can deliver it without needing tens of Mustang Mach-Es to offset each 20.4mpg and 315g/km example that it sells (although its 652kg payload is too puny for you to reclaim the VAT on it and BIK tax is at car rates).

It gets a twin-turbocharged 3.0-litre V6 petrol engine that, while higher in performance than its diesel-only predecessor, makes only 288bhp, rather than the near-400bhp that it's allowed to develop in other markets, because of European emissions regulations.

That drives through a 10-speed automatic transmission to either the front or all four wheels (four in high



or low ratio), with a locking rear and front differentials and various modes for Fox's incredibly trick live valve motorsport dampers.

Fox first used these on Polaris race buggies, and they're now migrating to other vehicles. They respond to the throttle, steering and what's going on beneath the truck to stiffen or loosen each corner to keep the body flat, resist roll and absorb bumps to spectacular effect.

You wouldn't know there's 2454kg of Raptor on the loose. It's effective

on the road too, combining good bump absorption with tight body control and very good straight-line stability as you drive between bits of twisties.

Find big spaces to enjoy it if you can: at 5363mm long and 2028mm wide without mirrors (2208mm with), it has quite a footprint.

You can still get a diesel Raptor but, given you don't get the fancy dampers or the locking front diff, I'm not sure I would recommend that. The petrol is probably the one.

It's hard to find space to get the best from the Raptor, but you could argue the same about a mid-engined Lamborghini. Like those, it's focused and compromised at times but there's nothing quite like it in the right circumstances.

MATT PRIOR

FORD RANGER RAPTOR 3.0 ECOBOOST

You need to find the right place to get the best out of it, but if you do, it's a supercar on loose terrain



Price	£58,900
Engine	V6, 2956cc, twin-turbocharged, petrol
Power	288bhp at 5500rpm
Torque	362lb ft at 2300rpm
Gearbox	10-spd automatic, 4WD
Kerb weight	2454kg
0-62mph	7.9sec
Top speed	111mph
Economy	20.4mpg
CO₂, tax band	315g/km, 37%
RIVALS	Isuzu D-Max AT35, Jeep Wrangler Rubicon

TESTED 1.3.23, KENT ON SALE NOW

LEXUS RX 350H

Regular hybrid could be the Lexus large SUV of choice for most private buyers

Last week, we had our first taste of the fifth generation of Lexus's flagship SUV, the RX. We drove the 450h+ plug-in hybrid, because Lexus reckons that's the version 55% of customers will go for. However, if you're not a company car driver or you do long distances without being able to plug in, there's every chance you will be better off with the RX 350h hybrid,

because then you won't be carting about 200kg of empty battery.

The mechanicals are the familiar combination of a 2.5-litre four-cylinder petrol engine and an electric motor driving the front wheels through the e-CVT, while an electric motor on the rear axle provides four-wheel drive.

Immediately, this full hybrid feels like the more natural car to drive.

Lighter weight doesn't turn the RX into a sports car, or even a sports SUV, but it does mean it changes direction much more willingly and feels more settled over bumps and crests. That in turn makes it more comfortable and even moderately enjoyable on a B-road.

The Takumi-spec PHEV that we drove earlier managed to isolate us even better from low-speed clunks and vibrations, thanks to its more sophisticated adaptive dampers, but overall any RX is still a smooth-riding car that's quiet at a cruise.

The lower Premium Plus Pack spec also gets some slightly less luscious interior materials, and the more you drive the car, the more various things like the fiddly infotainment and climate controls start to grate. The assorted bings, bongs, bleeps and bloops of the safety systems are also hard to turn off and won't all stay off.

Getting up to speed shows up another weakness of the hybrid. Without the extra electric punch you get in the PHEV (when it's charged, at least), the engine has to work a bit harder. Even when

you consider that it returns a real-world 37mpg, it's not going to tempt anyone out of a rival with a creamy six-pot diesel. The hybrid also doesn't have as much of a price advantage over its rivals as the PHEV. So although the RX 350h is in many circumstances nicer to drive, it doesn't quite stack up as well.

ILLYA VERPRAET

LEXUS RX 350H PREMIUM PLUS PACK

A mostly serene cruiser that returns decent fuel economy, but it's crying out for a more indulgent engine



Price	£59,950
Engine	4 cyls in line, 2487cc, petrol, plus two electric motors
Power	247bhp
Torque	na
Gearbox	e-CVT, 4WD
Kerb weight	1965kg
0-62mph	7.9sec
Top speed	124mph
Economy	42.8-44.8mpg
CO₂, tax band	143-149g/km, 8%
RIVALS	BMW X5, Volvo XC90





Volkswagen Multivan

The latest in VW's long line of Transporters is car-based but still capacious

MODEL TESTED 1.4 eHYBRID STYLE

Price £59,545 • Power 215bhp • Torque 295lb ft • 0-60mph 8.4sec • 30-70mph in fourth 10.5sec • Economy 38.0mpg • CO₂ emissions 41-43g/km • 70-0mph 52.8m



We like

- Versatile interior
- Great look and feel inside
- Very easy to place given its size

We don't like

- Ever-fiddly infotainment system
- Defaults to 'electric' mode on every start
- Some rattles and resonances

Things diverge now that we have reached the 'T7' stage of the Volkswagen van's life.

This, the T7 Multivan, is one of three commercial-type vehicles that replace the T6 Transporter. Another is the all-electric ID Buzz (road test, 8 February) and the third will be a VW/Ford joint van venture.

Those are both, in different ways, significant tangents from the otherwise steady lineage that has brought us to here, and leave this T7 Multivan as the only VW with a direct, unbroken model-line heritage dating back to the firm's air-cooled, rear-engine origins.

The first 'T' van was the Type 2, developed after VW's workers took a Type 1 (Beetle) chassis and rudimentarily modified it, placing a useful flat bed on top for moving parts around the factory. VW's Dutch importer, visiting, saw the potential of this 'Plattenwagen' and sketched a consumer-ready version in 1947. Production began in 1949.

As the Beetle moved from being perceived as austere, cheap, utility motoring into the charming, sun-kissed love bug, so too did the Type 2 (T1) Microbus. As, to a lesser extent, did the T2, T3, T4, T5 and T6 Transporters that followed. Look more closely at today's vans and a high proportion of the modified or family-used ones are modern VWs.

Which brings us to the divergence of the latest generation. The true utility VW van will, presumably, be the commercial-focused joint venture with Ford. The overtly cool variant draws on the 'ID' theme, the electric Buzz, with a price that starts with at least a five and which, despite its van-ishness, was recently named What Car? magazine's Car of the Year.

And then there's the subject of this week's road test, the only model of the three with T7 officially in its job description. Will it inspire people the way the original did 76 years ago?

DESIGN AND ENGINEERING



That ID Buzz isn't the only pricey thing in the VW range. This T7 Multivan, starting at £43,720, may have the group's MQB car architecture beneath it – a platform that underpins everything from an Audi A3 to a Skoda Superb – but here it's applied to cavernous effect like never before.

There are two lengths of Multivan. This is the shorter, but is still 4.97m long, 1.94m wide and 1.90m tall, with a 3.12m wheelbase.

Spend around £1500 more and there's an extended, 5.17m-long variant with an extra 200mm of rear overhang. The dog might thank you, but parking spaces won't.

Suspension is by coil springs all around, with MacPherson struts at the front and a torsion beam at the rear, and passive dampers (an adaptive chassis with lowered

Range at a glance

ENGINES	POWER	FROM
1.5 TSI Life	134bhp	£43,720
2.0 TDI Life	148bhp	£44,950
1.4 TSI eHybrid Life	215bhp	£49,345
2.0 TSI Style	201bhp	£58,715

TRANSMISSIONS

7-spd dual-clutch automatic (TSI, TDI)
6-spd dual-clutch automatic (PHEV) ■

There are two trim options on the Multivan: the base Life variant and this plusher Style derivative.

Life is available with the 1.5 petrol, 2.0 diesel and plug-in hybrid, badged eHybrid. Style, meanwhile, gets the diesel and hybrid but the petrol option is a 2.0, not the 1.5.

Style commands an £10,000-plus premium over Life and all variants are available as standard length (as here) or extended rear overhang, at a £1350-£1710 premium.

springs is an option not fitted to our test car). The front doors are conventional, the rear doors slide to open (electrically on higher-trim models) and the single-piece tailgate rises from its top hinge (ditto on the electric front).

There are two trim levels, which help to define which petrol engine you get out of a varied line-up. All are mounted transversely up front for front-wheel drive, mated to dual-clutch automatic gearboxes.

With the entry Life trim there is a 1.5-litre turbo petrol with 134bhp, but in higher Style models this becomes a 2.0-litre turbo petrol with 201bhp instead.

In both trims a 2.0-litre diesel is offered with 148bhp. This and the petrols drive through a seven-speed gearbox.

Then there is this plug-in hybrid, badged eHybrid, which pairs a 148bhp 1.4-litre petrol engine with a 114bhp electric motor, for a combined 215bhp. It drives the front wheels through a six-speed gearbox while beneath the floor lies a 13kWh battery, for an official electric range of 29 miles.

The T7 fits in VW's commercial vehicle range but all variants are currently, as we will see, effectively passenger cars, and taxed as such.

INTERIOR



Our Multivan is in its highest spec and has then had some more options added. But all variants →



T7 can trace roots back to Plattenwagen



• Duo-tone paint on a Transporter is a long-established 'bus tradition, but the T7 gets this chrome strip to separate the halves – and hides the colours' meeting point quite deftly.



• The T7 has the most pronounced bonnet of any Volkswagen van/Transporter, adding a car-like familiarity for those moving from MPVs, and some pedestrian-friendly crash structure.



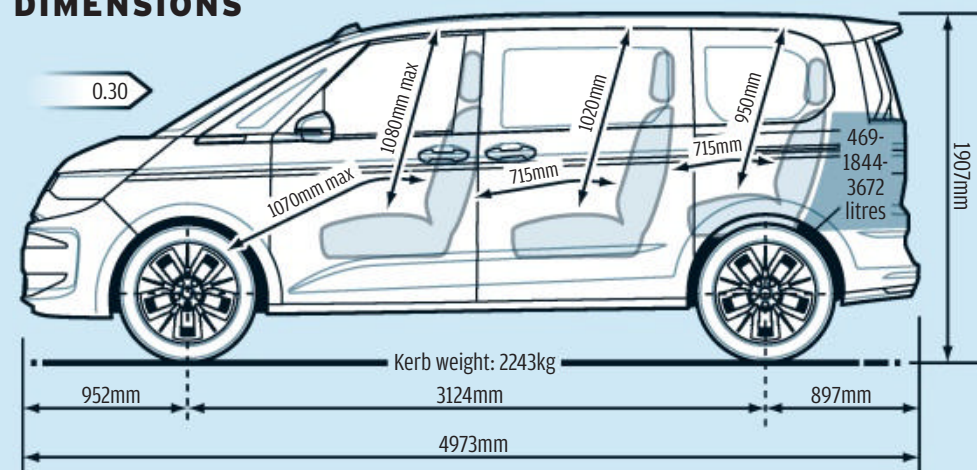
• The beauty of a sliding door is not only the size of the aperture but, given the T7 is nearly two metres wide, you can walk from the driver's seat to exit the car through it in tight parking spots.



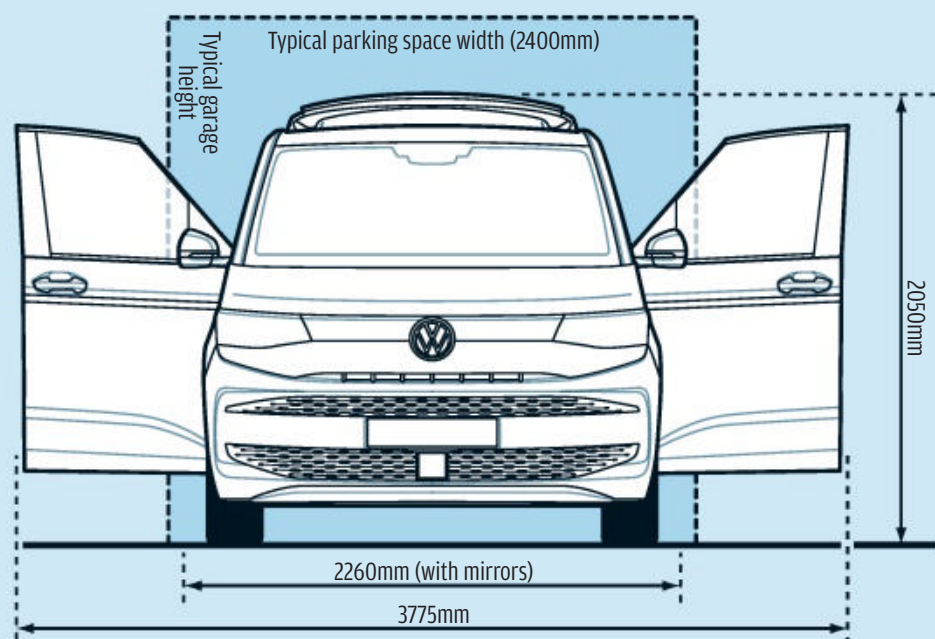
• Deep sculpting on the door side helps to break up the slab of it, which would be no big deal on a van but might otherwise dissuade those moving from estates or MPVs.

Weights and measures

DIMENSIONS



PARKING

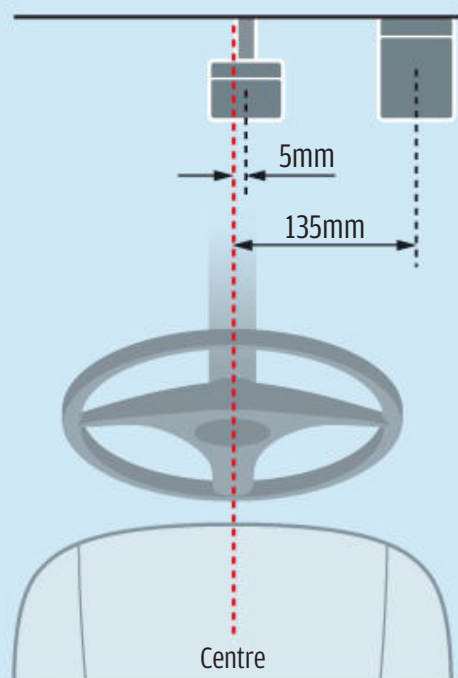


WHEEL AND PEDAL ALIGNMENT

A thick brake pedal is just about dead ahead of the driver and the throttle a steady distance to the side. The steering wheel is straight and centre and is widely adjustable. There's bags of free flat floor space to rest your unused foot on, too.

HEADLIGHTS

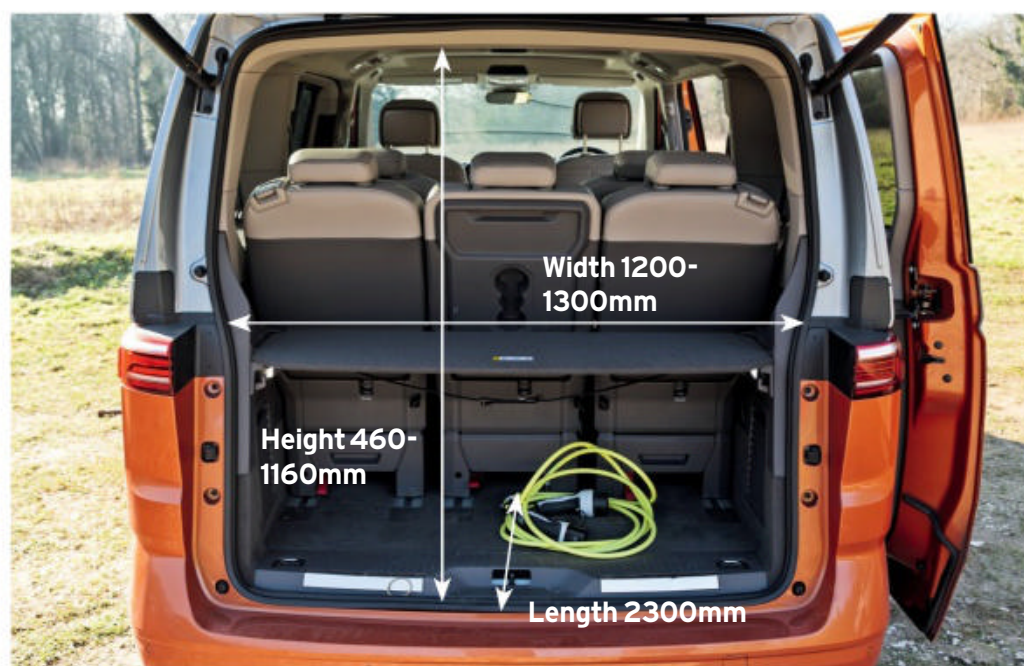
The automatic headlights work terrifically well, creating a small gap where they don't blind anyone. They are pretty good on conventional main or high beam, too.



● Spacious and relaxed. Big front chairs have infinitely adjustable armrests, though if you use them instead of the door top, they will be in your way when you exit.



● Make the interior look however you like, but know that the seats are quite heavy if you are looking to remove them.



● The luggage panel is quite short, leaving not a lot of space beneath, but that's to be expected in a car with this seating arrangement.

◀ get the same level of practicality and versatility – and it's of the sort that evangelical owners will tell you you'll never go back from.

Let's start up front at the business end. There are two large broad chairs, electrically adjusted, with a relatively chilled upright driving position and a steering wheel at a conventional car-like angle. Most of this architecture's hardware is sited between the driver's seat and the front axle, and it is impressive that it's flexible enough to sit in both a low saloon but also an almost two-metre-tall van that you step up into.

It's very easy to get comfortable, there's clear space around the seats because the gear selector is high on the dashboard and there's a huge windscreen, albeit with

wide metal around the A-pillar and quarterlight. The van's sides are flat and the mirrors and windows are large, so it's one of the easiest 5x2m cars to wield around tight car parks.

Material fit and finish is high – light surfaces, going heavy on carpet or soft feel, and even an approximation of wood across the dashboard. But, then, the before-option price is nearly £60,000, which will bring an expectation that you're not just paying for the space inside it.

Storage space up front abounds. There is no shelf by the roof in which to lose reams of paperwork, but each door has two pockets and there are two gloveboxes and fold-down cupholders on the dash with a device tray above. Then there's a

sliding console that can be dragged to between the seats that has more storage, or can be used as an armrest – although each front seat gets a pair of those anyway.

The rear of the cabin is as you want to make it. It is carpeted and there are three pairs of rails running the length of the 2300mm volume. Our test car has five seats back here, but you can spec fewer. They all remove (but, at 15kg or so, they're not light), as does that storage cubby, which can be raised and has fold-out tables in its top. You can place the seats either way around, and then they slide the length of the rails too. So if you want just four chairs back there as an office away from home or executive transport seated around a table, all

facing each other, fill your boots. Or you can pile in all the seats and a herd of kids.

As a result of that flexibility, we have not listed minimum/maximum rear leg room measurements because you can have none or, with legs extending between the front seats, nearly three metres of it. But if you have the driver's seat in a typical position, both rows two and three can have 715mm of leg room with still a small boot behind. Even with the front chair as far back as it will go, there's 660mm for rear occupants.

Behind the third row there's a luggage shelf and, with that in place and the seats in front of it, 469 litres of space back there. That extends to 1844 litres behind a second row →



● Rear sliding doors can be opened and closed from these buttons on the dash. If that's an essential part of your routine, you will want the higher-spec trim level.



● The steering wheel has retained good old physical buttons rather than the haptically responding versions on other VWs, and is much - much - the better for it.



● The digital instrument pack is bright and clear. There are plenty of choices of background colours, plus the information you want is retained front and centre.



Multimedia system ★★★★★

Volkswagen's infotainment system - and particularly its heating and ventilation controls - is among the most annoying in the business. That's especially true of this latest-generation set-up, given the heating and volume controls are both sited just where you would want to rest your palm to touch the screen. So you end up bracing your fingers on the dash or the screen top like you're playing a particularly tricky snooker shot. And those buttons don't light up in the dark.

If you want to adjust the heated seat, you push the heated seat (or climate) button, which opens up another menu. So while the icons are big and the driving assistance graphics are cute, and you can change the interior colours through a few sweet choices, it's a fiddle to use overall. We suspect many will wind up mirroring their smartphones.

And yet there are things to like, such as the £1080 Harman Kardon sound system, which sounds terrific.

“
On a demanding
road the Multivan
behaves pretty tidily
”



◀ in a fairly typical position, with a maximum space of 3672 litres with all the seats out (4053 litres in the longer version). As importantly, the minimum width of the tailgate opening is 1200mm, and its height 1160mm. The side doors open broadly, too, with a low step just inside them, and give great access.

There are two things to note. There isn't an underfloor cubby for the charge cable, so that will sit in there somewhere. And all but the centre-rear chair is right- or left-handed, so you will have to put them in their correct side to ensure seatbelts – mounted to the chassis, not the seats – sling across them properly.

PERFORMANCE



This isn't what the car is about, but the plug-in hybrid Multivan is a respectably brisk performer. At our

test track it took itself from 0-60mph in a distinctly unshabby 8.4sec, so if your van experience is mostly a hired Luton box van for moving house, don't worry that you will be sitting in an inside lane on inclines trying to coax enough out of it not to be nudged by an artic. This is an executive car.

It's largely a quiet one, too – very obviously so under electric power alone at low speeds, which is the mode it defaults to when you start. We will come back to how that works because, as usual with PHEVs, there's a lot of maths. But the short of it is that it will try to propel itself electrically by default, but by a flick of the driving mode switch you can tell it to drive as a hybrid, either depleting battery charge as you go or holding a level of charge to use later – say, in town where you want to run tailpipe-emissions-free.

Either way, a flick of the gear selector can put it in 'D', in which case most shifts are imperceptible – as is, under light load, the fact that the engine cuts in and out. Under heavier loads when the engine cuts in, you will absolutely know about it. Not because it's especially noisy, just because volume and acceleration receive an uptick. Should you want, you can pull your own gears via the shift paddles, although it hardly ever seems worth it. Flick the gear selector down again if it's in 'D' and it will go to 'S', so it will hold lower gears if left to its own devices, or refuse kickdown and run into the rev limiter and stay there if you pick your own gears. But beyond the novelty, there's no real benefit.

Braking power is fine for a big car with a lot of weight behind it (officially 2243kg at the kerb). But brake modulation is odd: on lift-off, the car's deceleration seems

to depend on speed limits and conditions, so sometimes it will coast and sometimes slow more notably, making you think about slowing it more than you should. It's well short of dangerous but it can be annoying, with seemingly no way to get consistency from it. The Multivan's towing limit is 2000kg.

HANDLING AND STABILITY



Of the two parts in this section it's the second one that's the most important, you would have to think, given this is nearly a two-metre-tall box. But one does beget the other, and on a demanding road the Multivan behaves pretty tidily. It steers smoothly and slickly and, at three turns between locks given the turning diameter is 12.1m, is relatively direct. Accurate, too, and moderately responsive. Basically, totally fit for purpose.



● For vans, it's usually what's inside that counts, but the T7's car-derived platform and electrified powertrain make it surprisingly composed and comfortable on the move.

Assisted driving notes ★★★★★

Flick a button on the dashboard – it's haptic and not so easy to find without looking closely at it – and you can pull up a screen on the dash that shows what driving assistance the VW gives you. It's presented as a rather nice graphic – tap it, and you can switch on and off.

The Multivan uses the latest-generation VW touchscreen software, for better or worse (mostly worse), but it is an iteration that means switching the lane keeping assistance off is a simple push on the end of the indicator stalk, followed by a confirmation via the 'OK' button (a physical button) on the steering wheel. Drivers of other VWs, where it's buried in this menu, aren't so fortunate.

Most of the time you will want it off, too – it's a fussy system that nags at the wheel on a country road and gets thrown where two lanes become one or by long marks of tar demarking road repairs.

AUTONOMOUS EMERGENCY BRAKING

- Does the system avoid false activation well? ✓
- Can it be deactivated? ✓
- Does it have pedestrian/cyclist detection? ✓

LANE KEEPING ASSISTANCE

- Is the system tuned to keep the driver engaged at all times? ✗
- Is it adjustable for sensitivity? ✗
- Does it allow you to drive around a pothole/obstacle within your lane easily and without deactivation? ✓

INTELLIGENT CRUISE CONTROL

- Can the system consistently recognise and automatically adopt motorway gantry-signed variable speed limits? ✓
- Does it prevent undertaking? ✗
- Does it have effective audible or visual alerts, or steering intervention, to prevent changing lanes into the path of an overtaking car? ✓



It does not have the last word in body control, but that's to be expected given the body height and mass, that it wears 55-profile tyres for comfort and the kind of car it is. But there's quite a capable car underneath it all, not exactly fun to punt down a stretch of road, but if you're late for football training, it won't elicit screams from the back on that nice bit of B-road before you get into town. Stability is fine but remember what it is: there's ESC to calm things down in an emergency, but the front end should wash out before its height becomes a worry.

COMFORT AND ISOLATION

★★★★★

Those generous tyre sidewalls and an easygoing suspension set-up make the Multivan a simple car to mooch around in. The ride is pliant, the seats are big and the cabin noise is generally low. But this is a big

volume, and given the nature of the seats – removable, with several-metre-long sliding mechanisms to put them in – perhaps inevitably you do end up with some resonances, especially given the engine can join or leave the conversation and excite things as it sees fit.

What we are saying is that generally this is a refined car – as our noise level meter suggests (see p38) – but there's just the occasional reminder of some boom in a vehicle like this that a saloon or an estate car would resist. On the plus side, it's one of the better automotive environments in which to let sounds develop, and some of our testers think it has the best-sounding hi-fi this side of a Rolls-Royce Phantom.

BUYING AND OWNING

★★★★★

And so to the maths, then. In terms of buying, this is not a market

segment awash with competitors, so if you want the additional space over an estate or SUV, here you are.

But as so often is the case with plug-in hybrids, what result you get from this drivetrain is dependent largely on how you use it.

On the front-right flank is the power inlet, which on a 7kW domestic charger takes only a few hours to charge from empty. From 100% charge, on test the car estimated it would do around 23 miles on EV power alone. But in February and suburban conditions, so some 30mph, 40mph and 50mph roads, we saw 14 miles before the engine kicked in.

With a battery depleted, the Multivan will do anything from 35-40mpg; we averaged around 37mpg. But with a fully charged battery and if told to go into hybrid mode directly, there is perhaps a more useful outcome. Over 45 miles

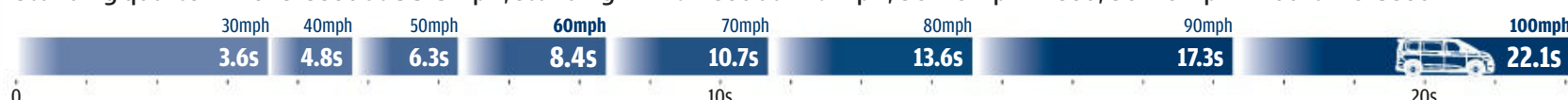
before the battery flattens, the car returns around 55mpg.

Now, obviously electricity isn't free, but sometimes it is cheap, and often generated renewably, so whether the PHEV is the right variant totally depends on your use case. The more urban or suburban driving it will be asked to do, the better the case for it, one imagines, if the tax implications haven't already won the argument in its favour. The PHEV's official CO₂ emissions are 41-43g/km, while the 2.0 diesel is 170-175g/km and the 1.5 petrol 180-185g/km.

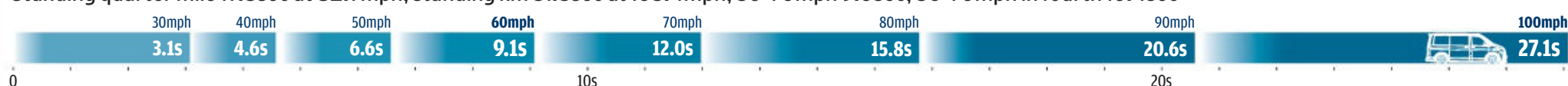
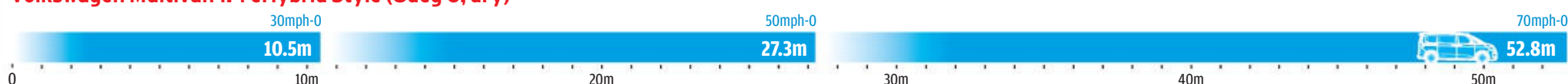
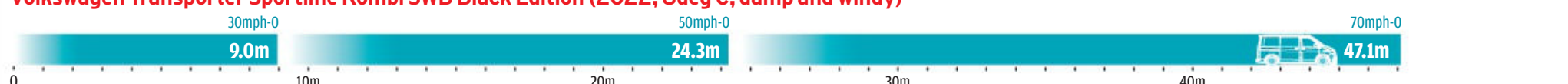
Elsewhere, VW is fair to middling in most customer satisfaction and reliability surveys; in our experience, commercial vehicle service centres are at least as pleasant as car ones; and the Multivan is expected to retain more of its value than its key competitors (see graph overleaf). ➔

ACCELERATION**Volkswagen Multivan 1.4 eHybrid Style (8deg C, dry)**

Standing quarter mile 16.6sec at 88.5mph, standing km 29.7sec at 111.9mph, 30-70mph 7.1sec, 30-70mph in fourth 10.5sec

**Volkswagen Transporter Sportline Kombi SWB Black Edition (2022, 8deg C, damp and windy)**

Standing quarter mile 17.3sec at 82.7mph, standing km 31.3sec at 103.4mph, 30-70mph 9.0sec, 30-70mph in fourth 10.4sec

**BRAKING** 60-0mph: 3.30sec**Volkswagen Multivan 1.4 eHybrid Style (8deg C, dry)****Volkswagen Transporter Sportline Kombi SWB Black Edition (2022, 8deg C, damp and windy)**

VOLKSWAGEN MULTIVAN 1.4 eHYBRID STYLE

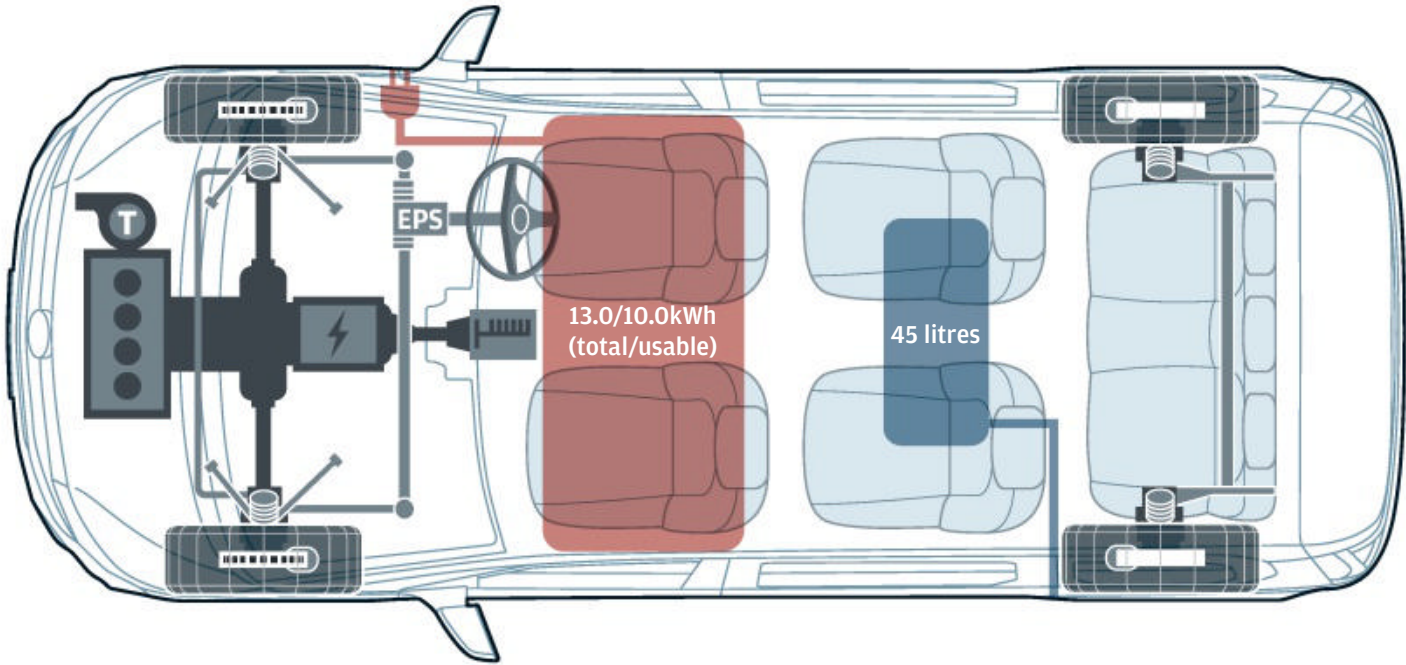
On-the-road price	£59,545
Price as tested	£66,169
Value after 3yrs/36k miles	£36,500
Contract hire pcm	£685
Cost per mile	na
Insurance	37/£947

TYPICAL PCP QUOTE

3 years/30,000 miles, 20% deposit £672
Putting down £12,000 on the top-spec model returns a £672 monthly instalment, with interest at 7.9% and a balloon payment of £33,400 at the end. Our data suggests this wouldn't leave much over for a deposit on a replacement.

EQUIPMENT CHECKLIST

17in alloy wheels	■
Climate control	■
Heated windscreen	■
Keyless entry/start	■
Heated seats/wheel	■
Electric front seats	■
Memory seats	■
Metallic paint	■
Massage seats	£1500
Panoramic sunroof	£1050
Discover Pro nav/infotainment	£294
Harman Kardon hi-fi	£1080
Duo-tone paint	£2700
Options in bold fitted to test car	
■ = Standard	na = not available

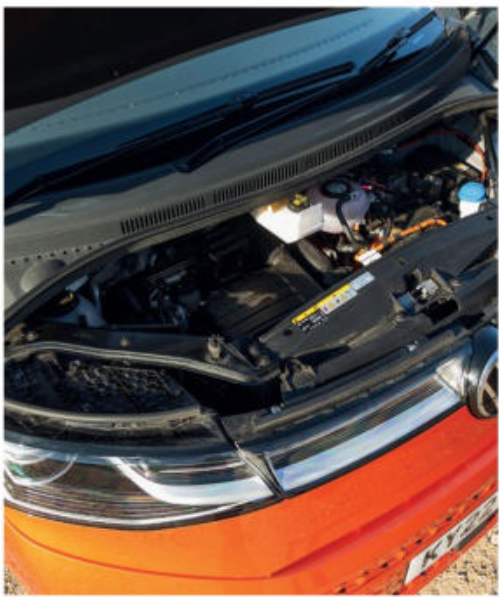


TECHNICAL LAYOUT

This VW's car-related platform means that, like the first Type 2 camper, there's a large similarity between the T7 and the firm's popular cars. The engine is up front, mounted transversely and driving the front wheels with help from an electric motor between the engine and gearbox. MacPherson struts are at the front with a torsion beam at the rear and coil springs all round. The battery lives under the cabin floor.

ENGINE

Installation	Front, transverse, front-wheel drive
Type	4 cyls in line, 1395cc, turbocharged, petrol
Power	148bhp at 5000-6000rpm
Torque	184lb ft at 1550-3500rpm
Compression ratio	10.0:1
Hybrid assist	Synchronous motor (114bhp, 243lb ft)
Battery type	Lithium ion
Battery capacity	13.0/10.0kWh (total/usable)
Total system power	215bhp
Total system torque	295lb ft
Power to weight	96bhp per tonne
Torque to weight	132lb ft per tonne



ECONOMY

TEST MPG	Track	22.4mpg
	Touring	37.9mpg
	Average	38.0mpg
CLAIMED	Combined	156.9mpg
	Electric range	29-31 miles
Tank size		45 litres
TEST RANGE	Electric	14 miles
	Combustion	366 miles
	Total	380 miles

EMISSIONS & TAX

CO ₂ emissions	41-43g/km
Tax at 20/40% pcm	£154/£308

CHASSIS & BODY

Construction	Steel monocoque
Weight/as tested	2243kg/na
Drag coefficient	0.30
Wheels	17in, alloy
Tyres	235/55 R17, Bridgestone Turanza
Spare	None (repair kit)

TRANSMISSION

Type	6-spd dual-clutch automatic
Ratios/1000rpm	1st 3.50/6.2 2nd 2.77/9.9 3rd 1.85/14.9 4th 1.02/20.8 5th 1.02/27.0 6th 0.84/32.8
Final drive ratios	3.75:1 (1st, 4th), 2.89:1 (2nd, 3rd, 5th, 6th)

SUSPENSION

Front	MacPherson struts, coil springs, anti-roll bar
Rear	Torsion beam, coil springs

BRAKES

Front	Ventilated discs, size unspecified
Rear	Solid discs, size unspecified
Anti-lock	Standard, brake assist
Handbrake type	Electric
Handbrake location	Centre console

STEERING

Type	Electromechanical, rack and pinion
Turns lock to lock	3.0
Turning circle	12.1m

SAFETY

ABS, ESC, BAS, EBD, ESR, EDL, XDS, Lane Ass't	
Euro NCAP crash rating	5 stars (eHybrid)
Adult occupant	90%
Child occupant	89%
Pedestrian protection	69%
Safety assist	87%

CABIN NOISE

Idle na	Max rpm in 3rd gear 74dBA
30mph	60dBA
50mph	65dBA
70mph	70dBA

ACCELERATION

MPH	TIME (sec)
0-30	3.6
0-40	4.8
0-50	6.3
0-60	8.4
0-70	10.7
0-80	13.6
0-90	17.3
0-100	22.1
0-110	28.4
0-120	-
0-130	-
0-140	-
0-150	-
0-160	-

ACCELERATION IN GEAR

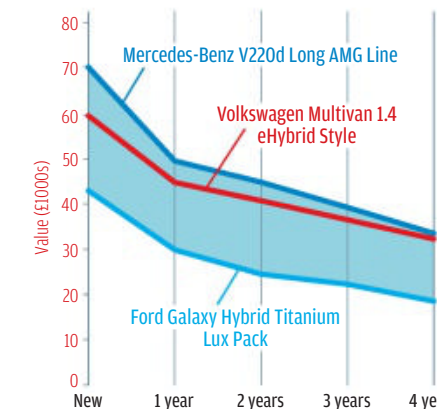
mph	2nd	3rd	4th	5th	6th
20-40	2.5	3.6	-	-	-
30-50	2.9	3.6	5.1	6.9	-
40-60	-	3.8	5.2	6.8	8.7
50-70	-	4.7	5.4	7.2	9.1
60-80	-	-	6.2	7.5	9.8
70-90	-	-	7.8	8.2	10.7
80-100	-	-	10.2	10.0	12.2
90-110	-	-	-	-	-
100-120	-	-	-	-	-
110-130	-	-	-	-	-
120-140	-	-	-	-	-
130-150	-	-	-	-	-
140-160	-	-	-	-	-

MAX SPEEDS IN GEAR

1	38mph 6100rpm
2	62mph 6100rpm
3	92mph 6100rpm
4	119mph 5631rpm
5	119mph 4343rpm
6	119mph* 3574rpm

RPM in 6th at 70/80mph = 2102/2402

RESIDUALS



● The Multivan is the strongest among its immediate rivals, of which there aren't very many.

THE SMALL PRINT Power-to-weight and torque-to-weight figures are calculated using manufacturer's claimed kerb weight. © 2023, Haymarket Media Group Ltd. Test results may not be reproduced without editor's written permission. For information on the Multivan, contact Volkswagen UK customer services, Yeomans Drive, Blakelands, Milton Keynes, MK14 5LR (0800 083 3914, volkswagen.co.uk). Cost-per-mile figures calculated over three years/36,000 miles, including depreciation and maintenance but not insurance; Lex Autolease (0800 389 3690). Insurance quote covers 35-year-old professional male with clean licence and full no-claims bonus living in Swindon; quote from Liverpool Victoria (0800 066 5161, lv.com). Contract hire figure based on a three-year lease/36,000-mile contract including maintenance; Wessex Fleet Solutions (01722 322888).

Testers' notes

MATT PRIOR

The panoramic glass roof adds a little extra interior volume, but unless you're a top hat enthusiast, it seems unlikely you will find it all that necessary.



MATT SAUNDERS

Two-tone paint turns the heads of enthusiasts, but apparently adds months to the Multivan waiting list.



Spec advice

We would want to prod the Life's infotainment for a bit to see if it's notably better or worse than the Style's, but generally it's well equipped as a base model. It keeps you the right temperature and has privacy glass (handy for security). We doubt we would miss the nav (it links to a phone anyway) but we would miss a heated windscreen. We don't mind opening doors ourselves, either.

Jobs for the facelift

- Rejig the infotainment system. Not the first time we have said that about a VW. The firm has at least got the ball rolling with the facelifted ID 3.
- Increase the battery size for some additional electric range.
- Trace the source of resonances.

VERDICT



Latest VW 'bus combines the best bits of both car and van

Spend a bit of time with the Multivan and it's easy to see why so many owners who start down the path of having a van evangelise about never going back. Partly one suspects it's because of the classlessness of them – unlike most SUVs or sports cars, you can take them anywhere you like and not be judged for it – but ultimately there's nothing to beat the versatility of a commercial vehicle with windows. In most cases, the best 'lifestyle' vehicle is a van, not a 4x4.

The Volkswagen Transporter has always been the genre's archetype and the current-generation T7 Multivan comes at it from a different direction. Rather than being a van platform turned into a car, it's a car platform turned into a van. But the net effect is similar: this is a relaxed, easygoing cruiser with a hugely spacious and practical interior. Only because of the architecture it uses, it has all of the capability to be equipped with the latest driver and safety assistance hardware and software. They give it a pleasingly luxurious edge; the volume provides some less welcome fizz and boom. And the net result is the mostly happy compromise you would expect.

ROAD TEST RIVALS

Verdicts on every new car, p72

Price
Power, torque
0-62mph, top speed
CO₂, economy



1 VOLKSWAGEN MULTIVAN 1.4 eHYBRID STYLE

Car-based architecture means van-based practicality, for a smooth, refined drive.

★★★★☆

£59,545

215bhp, 295lb ft

9.0sec, 119mph

41-43g/km, 29-31 miles



2 VOLKSWAGEN ID BUZZ SWB 77KWH STYLE PRO

Subject of a road test not long ago. All-electric variant majors on range and style – at a price.

★★★★☆

£61,915

201bhp, 229lb ft

10.2sec, 90mph

0g/km, 2.9mpkWh



3 CITROEN SPACETOURER BLUEHDI BUSINESS LOUNGE

Van first and car second but pleasant to drive. Peugeot and Vauxhall offer EV alternatives.

★★★★☆

£43,680

178bhp, 295lb ft

10.6sec, 115mph

189g/km, 39.2mpg



4 MERCEDES-BENZ V220D LONG AMG LINE

Premium badge on the outside, not too shabby on the inside. An old-school and pricey RWD van.

★★★★☆

£69,400

161bhp, 280lb ft

11.1sec, 105mph (est)

199g/km, 37.2mpg



5 FORD TRANSIT CUSTOM 2.0 130 TREND

Not as swish as the Multivan, but nine seats are available. Look for the new electric Transit, too.

★★★★☆

£48,228

128bhp, 221lb ft

13.0sec (est), 95mph (est)

191g/km, 38.7mpg

WHAT CAR would you buy...



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NEVER SAY NEVER AGAIN

The car that was never meant to be has as its beating heart an atmo V12, but what about a Ferrari soul? **Matt Prior** tests Maranello's first SUV in its natural habitat to find out

PHOTOGRAPHY MAX EDLESTON



The last time I came to Italy to drive a Ferrari, the weather was fine, with temperatures into double figures, if a little overcast and dewy.

There's a reason why I mention this (I'm not auditioning to be the next Wincey Willis). Had it been Britain and on Autocar's own tab, we'd have headed merrily directly down the pit lane – but sorry, said Ferrari's people, it's too cold for the tyres to work properly around the company's Fiorano test track, so we'd have to wait and sip coffee until the day warmed through. So I talked to an engineer instead, and while I can't guarantee he avoided using the phrase 'SUV', he told me the company had only committed to making a tall car when it was sure that it could be a true Ferrari (ditto the electric car that's still two years away).

That high car, though – the 4x4, SUV or crossover, as you prefer (they don't use the terms but pretend not to be offended if you do) – is here now. And there's no question of waiting until the roads have warmed up to test it or I'd be here until April. (It's mid-January as I drive, although not as you read.) In fact, today we'll go in search of the worst conditions that roads between Italian ski resorts can throw at us.

Before driving the Purosangue I'm gently asked whether I've driven an Aston Martin DBX, a Lamborghini Urus or a Rolls-Royce Cullinan. But I'm assured – as each of those companies would also try to persuade me – that the model operates in a sphere of its own, with no direct rivals.

They're curious sorts of arguments, these. There may be a certain mechanical accuracy to the fact that each offering is unique, in the same way that a fish-and-chip supper isn't strictly a direct rival to a curry. But the short of it is that when

Friday evening comes around and you can't be bothered to cook, it will be one or the other.

Whatever, the Purosangue (pronounced pure-oh-sang-way) is Ferrari's first-ever car with four passenger doors. Unlike the Bentley Bentayga/Urus/Porsche Cayenne etc, it doesn't share its architecture with another vehicle, utilising instead a largely aluminium monocoque. And it has a price and mechanical layout that really makes a statement, as £313,120 (and I'm told that dealers aren't interested until you're adding £60,000 of options to that) and naturally aspirated, 6.5-litre, 715bhp, 528lb ft, 16.5mpg V12 engines, sited behind the front axle line, tend to.

The driveline is derived from the FF/GTC4 Lusso's that came before the Purosangue in that there's a twin-clutch transaxle gearbox (now eight-speed) at the rear, with a separate two-speed unit taking power from the front of the crankshaft, with a clutch for each halfshaft to provide part-time four-wheel drive.

Customers love their GTC4s (and FFs), but they're still long, low shooting brakes, with bold, irresistibly scrapable noses and only two doors, so they're not as usable as owners would like them to be.

So voilà, a tall car with a 185mm ground clearance, four doors, a hatchback and even Isofix child-seat mounts. The Purosangue is big (4.97m long and 2.0m wide), but at 1.59m high, it's still lower by 29mm than the Urus and 91mm than the DBX. That the back doors hinge rearwards means the B-pillar can be more compact and the 3018mm wheelbase is shorter than it would be if they opened forwards. It also leaves their hefty mechanisms sited near a point of high nodal stiffness.

The Purosangue's transaxle helps distribute the 2033kg kerb weight 49:51 front to rear, and it ensures the car will only ever →

You can dial up Ice, Wet, Comfort and Sport drive modes

The motor and oil system on each corner has its own cooler circuit, so the motor stays chill and the damping rate remains consistent.

One of many Ferrari firsts is its number of doors; rears are rear-hinged





“
With winter tyres on snowy gravel
tracks, it has a surplus of hoon
”



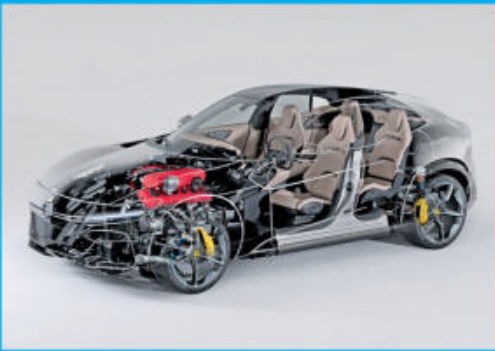
Among the modern
trappings, big paddles
show it means business



“

It slides and skips
and yumps with
supreme ease,
then settles again
with the deftness
of a stage-ready
rally car

”



THE PUROSANGUE'S SECRET SAUCE

I've looked at the diagrams, I've read the descriptions, I've even had two different engineers talk me through it piece by piece, and I'm still not totally sure I get it. But right, here goes. At each corner of the Purosangue is a suspension unit built by Multimatic – so there are nice stickers that say 'Ferrari, Made in England' all around it. Each unit comprises a coil spring over an oil damper. So far, so straightforward.

On the wheel end of the suspension is a lot of other gubbins. Relatively simple to explain are two spool valves (two bronze/black round bits adjacent to the main shaft). Each of these is a cylindrical plunger, through and around which oil pathways run, allowing travel in one direction – so one valve for compression, one for rebound. As the valves adjust, so the amount of flow through them changes, hence so does the damping rate. This is clever in its own right. Most Dakar rally cars use these 'DSSV' dampers, as do F1 cars and GT racers.

Now the even cleverer part is that there's a 48V motor on the wheel end of the unit too – the bigger blue cylinder that's offset again. That drives a gear on its end, via another, and another, to a threaded shaft that runs through the middle of the damper. As weight shifts on the car (under braking, acceleration, through bumps or whatever), the suspension compresses or extends; but as the shaft rotates, it effectively pushes or pulls against those movements to offset pitch and roll, shortening or extending the coilover while still allowing the spring and damper to move as normal and cushion blows. So there's no need for an anti-roll bar.

Sigh. Hold on, show me one last time...



Multimatic's TASV damper system has been introduced on the Purosangue



“It's taut, controlled and agile for a car this heavy. And boy, it's fast”



They never really had much in common at family gatherings



← have four seats, given the gearbox sits between the two rear ones. A typical adult seated behind a typical adult will have a hand's width of head and leg room, and those seats also fold electrically.

The boot is 473 litres with the seats in place, compared with 600-plus litres for the various Volkswagen Group rivals, but while you can spec a hard carpeted bolster to lay across the seatbacks and save them from scratches, if you're taking skis or bicycles, it's more likely you will mount them to an optional gizmo for the bootlid.

That would cut quite a dash as you scrabbled to the edge of a muddy or icy car park on a set of winter tyres to begin your adventures. Not quite 'skis on a Lotus Esprit' but satisfyingly exotic.

We're going to try the icy driving – if not the ski thing – today by hanging around in north Italy's mountains. We're rolling on winter rubber (235/35 R22 front and 315/30 R23 rear) and the local councils clear snow from the roads pretty diligently around here, but I plan to go off-piste too.

Nestled in its heated seats, there's a pleasing feel to the Purosangue's cockpit. It's certainly laden with familial trappings. There's a heavily sculpted dash with notable separation between driver and passenger. The driving position is sound and visibility reasonable; I can just see a front wing haunch but then the view of the bonnet slips away, while the rear window is small to make the car look more muscly at the bottom than the top, to good effect.

I think Ferrari felt stung by criticism of the ergonomics of the 296 and Roma, so there are new features too. There's only one scrollable screen rather than two on the digital instrument cluster, while the steering-wheel controls are now textured so you can feel for them rather than having to peer at them.

Behind the wheel's rim are big,

fixed gearshift paddles that are, as usual, the best in the business. Ferrari doesn't like column stalks, because they obstruct the paddles, which is why so many buttons make it onto the steering wheel. Presumably, this is a more complicated conversation than before: normally in a Ferrari, engineers say, the ultimate winner in an argument will be whatever improves a car's performance – hence big paddles win over simple indicator stalks. But for the first time, the development process hasn't been all about performance but functionality and usability, too. Aston Martin's boffins said similar things about the DBX.

On the centre of dash is a rotary dial for the temperature that, if you push it and swipe it, adjusts the seat bolsters, heating outlets and more. It's more fiddly than a bunch of separate buttons but not dreadfully complex, while phone mirroring is the only way to have sat-nav. The steering wheel's rotary 'manettino' drive control dial has Ice, Wet, Comfort, Sport and Stability Off modes, and if you want to change the damper settings (we'll come to those), you give it a push. Ultimately, it's a pretty easy environment from which to focus on driving.

And as you would hope, that's a pleasure. This is a four-door, four-seat coupé, not too lifted and, well, it has that V12 in it.

That fires to a (relatively) muted idle in the car's gentler driving modes, although it still sounds rich and expensive. At low speeds, the ride mooches gently, and while the steering is quick, with a 14:1 ratio similar to the GTC4's, it doesn't feel as nervous as that, nor any other recent front-engined V12 Ferrari.

They're always pointy and direct, and this is similarly accurate, with two turns between locks, but its initial response feels more measured. The cabin feels further forwards than those coupés/breadvans too, even though the →

A high-performance machine with grand touring potential

Pumping out 715bhp, this 3.3sec-to-62mph atmo V12 is hot all right



Its road manners are impeccable, even with 2033kg and 23in rims



← engine is set well aft. And as a result, I feel like I'm located in the middle of the car, rather than over the back axle holding onto the reins of a flighty front end. There's a natural feel to it all, even though active rear steer is one of a raft of standard technologies.

There are more of those, most notable among them being the new Multimatic spool-valve dampers whose workings – and how they replace anti-roll bars – I attempt to describe on p48. Lordy, they're complicated, but they're brilliant – able to resist the car's pitch and roll as confidently as they do.

They have three settings: soft, medium and (surprise) hard, and for my money, in all of them bump absorption is better than any car with 23in wheels and 30-section tyres has any right to be. This is largely a quiet, confident, mature car, more solid-feeling than any Ferrari I can remember. A sound cruiser, I'd think – although we'll have to spend motorway time with it later.

With that, though, body control is also tight. If the Purosangue were sufficiently light, the 48V suspension system would put enough force into itself to pitch into corners, rather than just roll less than expected.

How much less than expected? The Purosangue isn't that tall (at one point I follow a Citroën Berlingo and figure its driver and I are at about the same level), but the Ferrari's body movements are tied down like I wouldn't expect from even this modest elevation.

It's taut, controlled and agile for a car with an engine this size out the front, and with this kerb weight and this ground clearance. And boy, it's fast. It has a very honest big-coupe vibe.

I try to think of the car it reminds me of most and ultimately settle not on its 4x4 competitors from the

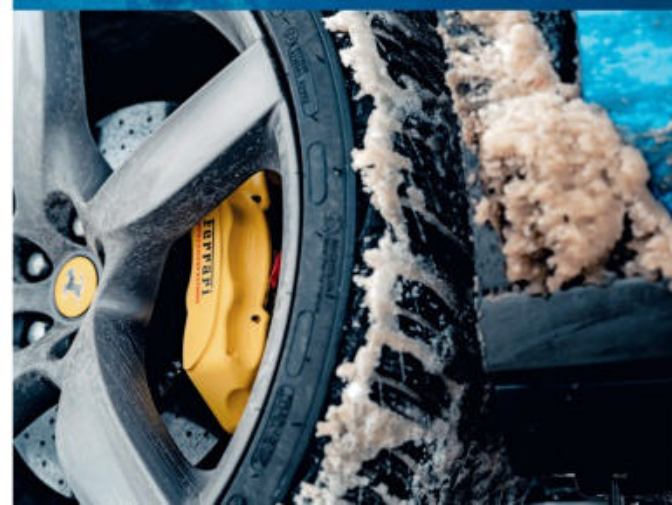
Volkswagen Group or Rolls-Royce but an Aston Martin, although not the obvious one either. Instead, I imagine what an Aston Martin Rapide would have been like if it had been jacked up, not to full SUV levels but to those of cars that get Dakar, Allroad, Cross Country or Scout monikers.

The similarities are there: aluminium chassis, front-mounted V12, transaxle, four seats, modest hatchback. The Ferrari bods are right: this isn't an SUV, it's a Rapide Allroad. It's a GTC4 Cross Country or an FF Dakar.

Ultimately, its handling balance has that presence. There's enough power here to overwhelm sticky rubber on a warm day (where it would do 0-62mph in 3.3sec and 193mph), so with winter tyres on glassy, frosty or truly snowy gravel tracks, it has a surplus of hoon.

The Purosangue slides and skips and yumps with supreme ease and balance and then settles again with the deftness of a stage-ready rally car. It's not an off-roader, and it's not a 4x4, really. It can't even tow anything. But as a way to have the V12 Ferrari experience in a relaxed setting without having to worry that you will crack four-grand's worth of carbonfibre on a driveway ramp, look no further.

Snow, no snow, it doesn't matter: this car is a laugh. The DBX 707 is perhaps more flamboyantly keen to shout. The Cayenne Turbo GT is perhaps the only road-pummelling SUV that would equal the Purosangue for seriousness. And I still think this car will never be quite as cool as a GTC4. But this is a car Ferrari had to make, and while you excuse some car makers their SUVs because they let them make enough money to produce the sports cars we love, the Purosangue does for its maker what a lot of SUVs can't for theirs: it actually feels like a Ferrari. 





FERRARI PUROSANGUE DRIVE

Ferrari maintains that only 20% of all its output will be allowed to be the Purosangue - so there's no way that, as at Bentley, Lamborghini and Porsche, the SUV will take half or more of sales.

Clever damping tech smooths roads and boosts body control



“
Snow, no snow, it doesn't matter: this car is a laugh
”

FERRARI PUROSANGUE

The SUV that isn't an SUV. Actually, I believe it. It's more like a jacked-up GTC4. And a great piece of kit

Rating	★★★★★
Price	£313,120
Engine	V12, 6496cc, petrol
Power	715bhp at 7750rpm
Torque	528lb ft at 6250rpm
Gearbox	8-spd dual-clutch automatic (rear), 2-spd automatic (front), 4WD
Kerb weight	2033kg
0-62mph	3.3sec
Top speed	193mph
Economy	16.5mpg
CO ₂ , tax band	393g/km, 37%
RIVALS	Aston Martin DBX 707, Lamborghini Urus Performante

HAVE A GO HEROES

The liberty of a race track is a seductive prospect for any car lover, but attending a track day for the first time can be equally as intimidating. Here, experienced helmsman Andrew Frankel offers some top tips and words of encouragement



WHICH CAR SHOULD YOU TAKE?

If you've chosen the right circuit and the right event, there's no need to turn up in something fast. On the contrary, you will learn much faster, have more fun and scare yourself less in something with decent but not extravagant performance. You could take anything, but a car with at least faintly sporting credentials will be a much better tool for the job. Anything from a lukewarm hatchback upwards.

As the broadest rules of thumb to which there are many exceptions, front-driven cars tend to be more forgiving and easier to control in the wet, but rear-drivers are usually better balanced and offer the option of power-on oversteer – skidding, basically.

Mazda MX-5s are the de facto choices for novices, because they're cheap to buy, cheap to run, reliable, plentiful and great fun. If you want a bit more get-up-and-go, a Nissan 350Z or 370Z is well worth a look.

From there, get something designed for the job: a modestly powerful Caterham will be more fun than most supercars and, in decent hands, little slower.

Whatever you take, though, you need to know that it and its tyres are up to the task, because a mechanical failure on track is at best inconvenient, at worst severely prejudicial to the health of your wallet and possibly yourself too.



Overtaking is done courteously, never in a racing fashion

Want to make millions in years to come? Buy a race track. As most road cars become more homogenised and enjoying the remainder in public becomes increasingly socially unacceptable, enthusiasts are taking to the track like never before.

Ben Taylor, CEO of the British Automobile Racing Club, which runs Thruxton among a host of other race tracks and hillclimb and sprint venues around the UK, says: "Interest in track days exploded after Covid and shows no sign of going away. We had a record year in 2022, and with 2023 essentially already booked out, it will be the same again this year."

What if you've never done a track day before, though? What if the idea of pushing yourself and your car harder than you ever have before makes you as anxious as it does excited? If so, such thoughts make you part of one of the world's least exclusive clubs, namely that of almost everyone who has done a track day for the very first time.

The good news is that in almost all cases, the perception is far, far scarier than the reality. Indeed, driving a car on the limit on a track isn't only far more fun and less frightening than trying to do so on the road but also far safer. You're not going to find anyone coming the other way on a track, you're not going to find a slick of muck all over the road and, if it does all go wrong, there's a far better chance that you won't hit anything. Even if disaster does strike, the barrier you hit will have been designed specifically to protect you – unlike a tree.

Even so, there's plenty you can do to ensure your first track day is memorable for all the right reasons. And you can do it all from the comfort of your own home.

Because there are so many different forms of track day, including those where you drive cars belonging to the track, all subsequent comment presumes you will be taking your own car. (As to what that car should be and how it should be prepared is dealt with in the box below, left.)

The most important consideration is which track to visit. Every one in the UK hosts track days, but you perhaps won't be surprised to learn that it costs more to use a Formula 1-certified facility like the Grand Prix layout at Silverstone than a charming but far smaller one that caters for club-level motorsport, like Mallory Park.

Considerations of budget aside, it's probably best to choose one of the more forgiving circuits for your first outing. Those like Thruxton, Goodwood and Oulton Park offer the most fantastic challenge, but you will enjoy them far more with a few track miles accrued elsewhere under your belt first. Where? Silverstone and Donington Park are obvious choices, but certain configurations of the Bedford Autodrome are pretty friendly, as is the gorgeous Anglesey Circuit (one reason why we use it often for our Britain's Best Driver's Car competition) and the lesser-known Blyton Park in Lincolnshire.

You're also going to want to know what kind of track day you're attending, because if you're just dipping a toe in the water in a £1500 Mazda MX-5, you don't want to find yourself being monstered by a phalanx of have-a-go heroes in their Porsche 911 GT3 RSs. Most (but not all) track days aren't actually hosted by the circuit but rented out to track-day operators. Goldtrack, Javelin, MSV and RMA are among the best known and most reputable (although if you want to drive at Silverstone, you will need to deal direct).

Many organisers offer sessions or even entire days for novice drivers and some just attract different crowds. RMA days, for example, tend to be very senior indeed.

Wherever you go and whichever organiser you choose, don't be too proud to educate yourself before you go. Watch on-board videos to learn which way the track goes or, better still, 'drive' it yourself if you have (or a mate has) a PlayStation or similar – and learn while you're there, too. All decent track-day organisers provide qualified instructors who will take you round not to scare you witless but, on the contrary, unlock the secrets of the circuit and help you relax.

Finally, take your time. Track days almost always follow the same pattern: everyone is queued up in the pit late at 9am sharp, because they've been looking forward to it for weeks, but the afternoons are always far quieter. Play yourself in, try to relax in the car and don't just go round and round. Your brain may acquire the information it needs while you're on the track, but it processes it while you're having a coffee. Give yourself plenty of breaks and you will be amazed by how much easier and more enjoyable it is each time you head back out. **A**

Ensuring you have decent tyres isn't enough. They have to be in decent condition too, so check their treads for wear and their sidewalls for damage. Make sure their pressures are at least those recommended by the manufacturer.

There's no shame in hiring a tutor to show you the ropes

A helmet is a must. It's best to buy your own

Forget the rules of the road – but still don't be a liability

If you're ever going to see a rarity, it will probably be on track



THE CAR IN FRON

It peaked in the late 20th century among the British conglomerates, and now it's back with

'Badge engineering' is a wry phrase that turned popular in the 1960s because there was an awful lot of it going on, especially in Britain. It refers to the practice of changing a car's brand and/or model identity by the simple expedient of applying different badging to it. In the most extreme cases, that model will be identical to the one from which it was spawned, bar those badges.

For a prime example today, look no further than the Mazda 2 Hybrid, which is the spit of the Toyota Yaris Hybrid. Relatively few not-all-our-own-work cars are born

as simply like this, although it's a solution, occasionally desperate, that has been around for almost as long as the car itself.

Mazda isn't alone in adopting a Toyota. Suzuki has pursued the same range-extending practice with its Swace (Corolla estate) and Across (RAV4), while Subaru's Solterra is almost identical to the bZ4X.

Why does it happen? Developing an entirely new car can cost a good £500 million these days. Finding ways to lessen that cost is the perennial task of accountants, engineers and product planners.

Yet it's rare that they will resort to the most expedient method of

adding a model to the range by merely rebadging another maker's effort. Such opportunistic car creation is often about more than cost, as an unusually revealing joint communication from Toyota and Suzuki demonstrated back in 2016, when they announced their collaboration.

It read: "Suzuki is increasingly feeling a sense of uncertainty in the face of the advanced and future technology R&D field. Where Toyota is concerned, although it has been working on

R&D in the environment, safety and IT fields, it's conscious of the fact that it may be behind competitors in North America and Europe when it comes to the establishment of standardisations and partnership with other companies."

It's unusual for car makers to admit to uncertainty or to scrambling behind its rivals, and while those corporate words sounded dull, it was clear that the driver of this partnering was fear of the future.

But then that's not so surprising, considering

Saab often had others' work foisted upon it. For instance, a light rework of the five-door Impreza produced the 9-2, more often known as the Saabaru.

“
We can expect more of this
pragmatism, and never mind
the muddying of brand purity
”



BRZ and '86 are more
differentiated this time
but still very similar

THIS... A TOYOTA?

a vengeance. But why? Richard Bremner examines the phenomenon of badge engineering

the seismic change that the car industry is currently undergoing.

The results of this particular collaboration can be seen not only in European Suzuki showrooms but also Toyota dealers in India, which sell rebadged Suzukis, with Toyota's entry into this burgeoning market being eased by Suzuki's dominant position and small car expertise.

Harnessing one another's strengths has also led BMW, Mazda and Subaru to partner with Toyota on various fronts.

The motivation for relabelling can be a lot simpler, though. Badge engineering perhaps reached its zenith with offshoots of the British

Motor Corporation's 1962 Morris 1100, after the Rootes Group had repackaged its ultra-dull 1956 Hillman Minx into the pricier (and popular) Sunbeam Rapier, Singer Gazelle and Humber Sceptre.

Reasons for badge engineering run to far more than exploiting your brand portfolio. In the late 1970s, British Leyland struck a deal with Honda to build the Ballade (the Civic with a boot) under licence. It provided BL with an urgently needed fresh model in the Vauxhall Astra market during the endless and not entirely rewarding wait for the 1983 Austin Maestro. Project Bounty yielded the 1981 Triumph

Acclaim, this the first of many deals between the pair, some extending to joint model development and the building of Hondas in BL factories.

Examples of the speedy creation of a car for rapidly accessing technology that a manufacturer doesn't yet have; for sharing the cost of a low-volume but high-risk project; or for smoothing the passage to markets a company isn't present in are plentiful.

Given the enormous R&D load that's generated as car makers attempt to rapidly electrify their model ranges, we can expect more pragmatic car-sharing, and never mind the muddying of brand purity.

MORRIS 1100 AND MANY OTHERS

The Morris 1100 is probably the most badge-engineered model ever. After the Morris came MG, Austin, Vanden Plas, Riley and Wolseley versions, each with its own grille, interior treatment and power output. (This model family is also known by the project codename ADO16.) Versions were also built by Italy's Innocenti and Spain's Authi (although Milan's IM3 was extensively modified).

Offering all these variations wasn't just about increasing choice and improving profits (although this they achieved) but also feeding →

← the British Motor Corporation's multiple – and influential – dealer networks.

BMC was created in 1952 from a merger of Austin and the Nuffield group of Morris, MG, Riley and Wolseley. The trouble with blending two mass-market car makers is much duplication of models, engines, factories and retail networks.

Morris dealers were promised a year of selling the 1100 before Austin dealers got their version and first dibs on the 1964 Austin 1800.

That all of these versions succeeded was in large part due to the excellence of the 1100. Effectively a bigger Mini, it provided amazing space for its size, more power, attractive Pininfarina styling and the surprise sophistication of Hydrolastic fluid suspension. The most advanced car in its class, it was Britain's best-seller for 10 of the following 11 years.

Mazda is no stranger to badge engineering, its 1996 121 supermini being none other than the Ford Fiesta of the same vintage, their differences minimal.

MAZDA 2 HYBRID AND TOYOTA YARIS

This arrangement is a fresh variation on the badge engineering theme. Mazda already offers a small and attractive supermini, the Mazda 2, that's all its own work. The 2 Hybrid, however, is similar only in that it's also a five-door supermini with an unusually large front grille. The shape of this grille, and every other component of the car, is completely different from the rest of the Mazda range, because the 2 Hybrid is in fact a Toyota Yaris.

The advantage for Mazda is that, apart from offering customers a hybrid supermini from its showrooms, sales of this model should also help lower its fleet average CO₂ emissions.

The arrangement doesn't end there, with Toyota offering the 2 as a Yaris in its US showrooms, an arrangement stemming from a collaborative deal forged in 2015.

This is badge engineering at its simplest – and arguably its most cynical.

TOYOTA BZ4X AND SUBARU SOLTERRA

As with the Toyota '86 and Subaru BRZ, the creation of this pair is slightly less the result of badge engineering and more the result of a



The Mazda 2 Hybrid is more Toyota Yaris Hybrid than Mazda 2



A fine Morris or MG or Austin or Riley or whatever



Toyota's bZ4X has allowed Subaru into the electric market early

PLATFORM SHARING vs BADGE ENGINEERING

There's a substantial difference between badge engineering and platform sharing, but both have the same aim: saving money by maximising the common parts between cars.

Badge engineering at its most extreme is just that, the resultant cars being 99.9% identical, as per the Toyota Yaris and Mazda 2 Hybrid.

A more convincing method of creating two - or many - distinctly different cars is to share a platform, thereby saving a heap of money.

It was much easier in the days when cars had separate chassis, as Chrysler, Ford and General Motors endlessly demonstrated in the US last century. The process is harder if it's the lower half of a monocoque bodysell that you're trying to share across models.

However, the Volkswagen Group got this down to a fine art in the late 1990s with its thrillingly labelled

PQ34 platform. Models as disparate as the Audi A3, Volkswagen Beetle, Audi TT, Volkswagen Golf and Skoda

Yeti shared a core, which included the floor, sills, front bulkhead, suspension, air conditioning and electronics plus plentiful powertrains.

Today, it's the MQB platform that does this industrial heavy lifting. This component is so versatile that both ICE and electric cars can be built from the same hardware, ranging from the Volkswagen Polo to the massive US-market Volkswagen Atlas. So far, the group has sold more than 32 million MQB-based vehicles, yielding cost savings that badge engineering alone could never achieve.

But platform strategies require years of planning and the resources of a small country. Badge engineering, by contrast, can fill a gap in little more than a year for minimal cost. And that's why it won't be going away.



MQB has spawned some 70 models, most not obviously related

“Both are most likely better cars as a result of the joint input”

joint venture. The two models are nevertheless essentially the same, but both companies claim that each played to its strengths during the development of this car.

Subaru's particular speciality is four-wheel-drive hardware and suspension finessing, while Toyota has years of experience of electronics, motors and batteries from all those hybrids, besides its supreme reliability expertise.

Both the bZ4X and the Solterra are most likely better cars as a result of that joint input. A couple of

years from now, Subaru will have its own EV architecture. But for now, collaboration with Toyota enables this relatively small manufacturer to fast-track its way to having an EV.

TOYOTA GT86/GR86 AND SUBARU BRZ

We're now into the second generation of this jointly developed duo, and as in the first one, there's little to tell the two apart.

Subaru no longer offers the BRZ in the UK, the smaller firm having lost this friendly sales face-off the

first time around. One benefit of sharing the cost, however, is that such setbacks are less painful. Indeed, it's unlikely that this small-scale coupé project would otherwise have been viable even for Toyota, which also spread the load of creating its GR Supra with BMW.

That such liaisons can work is demonstrated by the willingness of Toyota and Subaru to repeat it.

These days, we should be happy that such cars exist at all, and if it takes collaboration to achieve it, then so be it. **A**

FOUR MORE RECENT BADGE-ENGINEERED FAMILIES

Abarth 124 Spider, Fiat 124 Spider and Mazda MX-5

Citroën C1, Peugeot 107/108 and Toyota Aygo

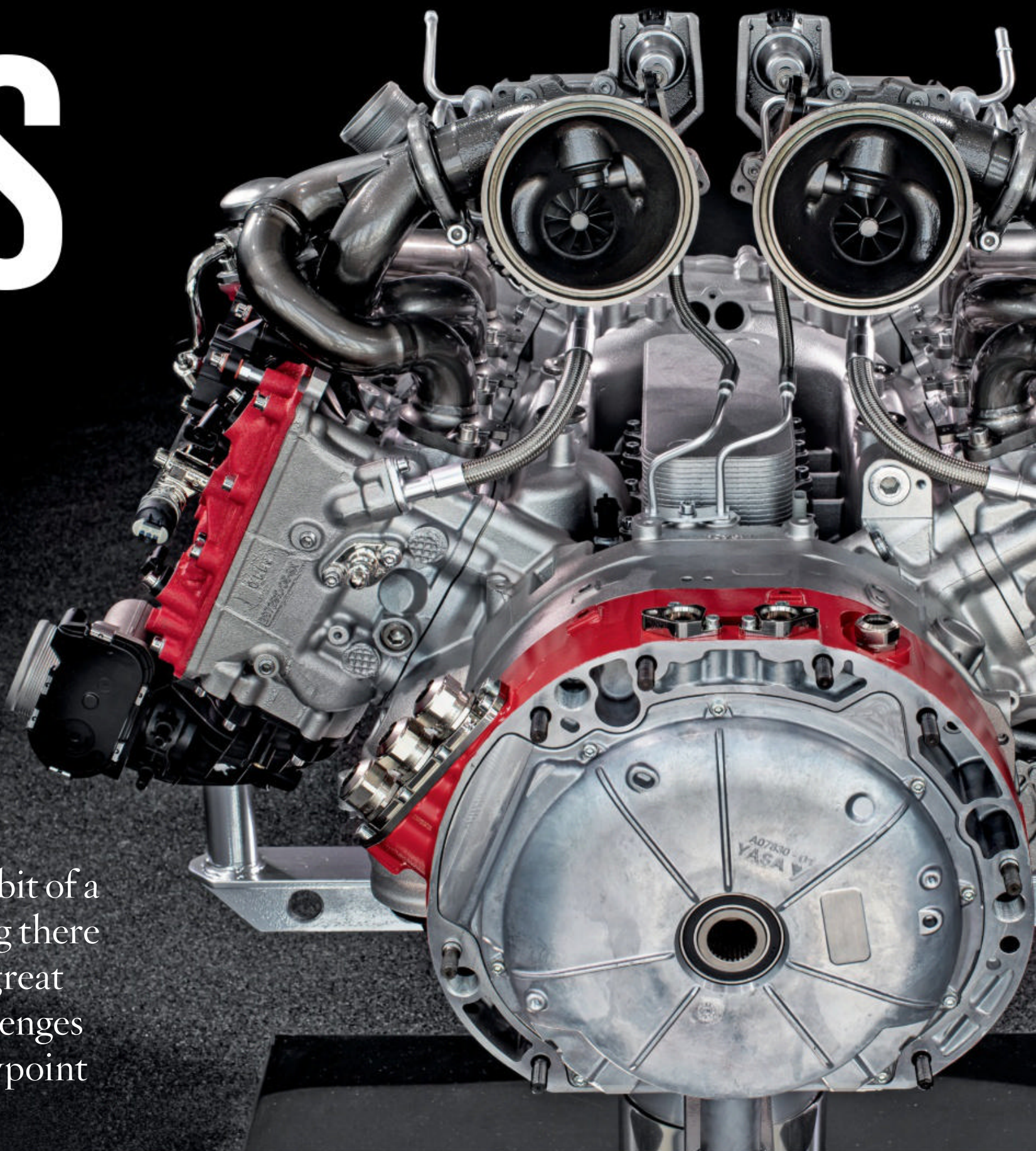
Citroën C-Crosser, Mitsubishi Outlander and Peugeot 4008

Fiat Sedici and Suzuki SX-4



HITS FOR SIX

Richard Lane caused a bit of a stir recently by claiming there had never been a truly great V6. John Simister challenges him to defend that viewpoint



It's more versatile than a V8 yet more interesting than an inline four and has the potential for colossal outputs. These are just some of the reasons why the V6 – humble or exotic, depending on where it's found – has propelled a wider range of cars than any other engine. But has there ever been a truly great one? Let the debate begin...

RL This debate was precipitated by a facetious remark I made in our Ferrari 296 GTB road test, which was that there had never before been a truly great V6. Look, I would never say anything that I didn't at some core level believe, but I accept that it was a touch incendiary. And when associate editor Piers Ward suggested that I qualify my comment through the medium of debate with none other than John Simister... well, if it isn't the consequences of one's actions.

But there's no going back now, so

let's consider. The great V12s need no introduction. Ferrari's Colombo is the most revered, but I'm keen to keep our parameters quite modern, and even then there's no shortage of talent. Maranello's current V12 is blindingly good: aristocratically smooth, richly detailed and so full-bodied. Every car lover should try to experience one. Both pre- and post-2010 Lamborghini V12s are also unbelievably evocative. And, having heard it, I'm confident the Cosworth screamer in GMA's T50 will be considered a great.

The V10? It's not so common but, more often than not, what

exists is exceptional. Some don't go off that spectacularly (hello, E60 BMW M5), but with the right exhaust tuning almost any V10 can be made to put your neck hairs on end. Think Lexus LFA, Porsche Carrera GT, Lamborghini Huracán Performante. This configuration is less interesting than the V12 but more responsive, more violent and probably just a bit more fun-loving.

As for V8s, again they're not all exceptional. The cross-plane units of the old Mercedes-Benz SL 500

and any Ford Mustang strike the correct characters for those cars, yet they aren't great. But the F136 in the Ferrari 458 Italia patently is great. So is Mercedes-AMG's atmo 6.2-litre M156, found in the old C63.

The V8 configuration also tends to have more of a motorsport link than others, which adds allure. Sometimes you even get circularity: for the 918 Spyder, Porsche dusted off and enlarged the engine of its RS Spyder prototype racer, and that same basic engine has now resurfaced in the 963 for the World Endurance Championship. Lovely.

The V6 doesn't sit particularly comfortably in this company, yet its real problem is the existence of the straight six. Better balanced, higher-revving and generally more linear in its delivery, it is, I suspect, the configuration that many V6 adherents would have chosen were it not for packaging constraints (or the need for less weight in the nose, or indeed the starting point being a V8, as with the Alfa Romeo Giulia



296's V6 goes hard, Busso yet harder



WHY GREAT SIXES TEND TO BE STRAIGHT

It's a question of balance. An inline three-cylinder engine tends to rock end to end, but join two together such that pistons one and six mirror each other's positions, ditto two and five and three and four, and the reciprocating forces cancel each other out.

In a V6, which is effectively two inline triples sharing a crankshaft, those rocking forces don't exactly oppose each other, rather they're at the angle of the vee to each other, so there's a slight residual oscillation. This is more evident with a vee angle of 90deg than of 60deg but lessens again at 120deg.

At 180deg (flat), those opposing forces do cancel each other out.

Another advantage of a straight six over a V6 (if not a VR6) is that it needs just one cylinder head, which saves complexity and cost. But its length makes it harder to package, and there's a final factor in the V6's favour. Although they don't escape into our perception, a straight six's long crankshaft is full of vibrating torsional stresses that are less of a problem in a V6's shorter and thus stiffer shaft.

That's a key reason why a truly high-revving six – an F1 engine, for example, or the Ferrari 296's – is likely to have its cylinders in a vee.

JOHN SIMISTER

Quadrifoglio's V6). It's why you find so many V6s mounted transversely.

They do offer a bit of glamour and can be shoehorned into the space where you would usually find a four, the Volkswagen Golf R32 being a prime example. Some are very good indeed, and Alfa Romeo's Busso V6 is among the best, but most are just too industrial, hitting brutally hard when turbocharged but feeling a little lethargic. The Nissan GT-R's V6 is an excellent example of this kind of character. Few engines are more effective, but take power out of the equation and tell me you wouldn't rather an RB oversquare straight six from the Skyline GT-R era.

I will be interested to see what John counters with. Indeed, I await enlightenment. And remember that he only needs but one motor to undo my ill-advised little outburst. I bet it's the 8000rpm ripper from the original Honda NSX...

JS One of a truly great engine's many attributes is smoothness. In a perfectly smooth engine, we

won't have any sense of the pistons' reciprocating motion. All the vibrations from this will cancel each other out. A good straight six is ideal for this, but a conventional V6 has inbuilt snags. Are they enough to render greatness out of reach?

Having the right vee angle is a good start. It should be 60deg or a multiple of that to minimise out-of-balance forces, but a V6 will always have some. A regular 90deg V8 has opposing pistons and conrods sharing a crankpin, but this doesn't work smoothly for a V6, regardless of vee angle. Instead, a 60deg V6, which until recently was most of them, has the crankpins for opposing pistons staggered by 60deg to get optimum balance and even firing intervals.

So which V6s might we find in the engine hall of fame? Not many, it's true. Some wait in the lobby, hoping to be called in: the 3.0-litre 24-valve Jaguar unit descended from Ford's Duratec V6 is one, Lancia's Aurelia V6 is another. Launched in 1950, the latter was the world's first production V6, used aluminium for its block and heads and set the 60deg template. It's keen and feisty to drive behind, too, but not neck-hair-pricklingly so. It's significant, then, but not quite great.

Also from Italy is Ferrari's Dino V6. This Fiat-productionised motor, revealed in 2.0-litre form in 1966, has its conceptual roots and basic architecture (notably in the gear-and-chain drive to the overhead camshaft quartet) in the racing Dino V6s of the 1950s. The concept includes a sneaky 65deg vee angle,

still used today on Ferrari's V12s to create a lower engine and more space for the induction system. Ferrari reckoned it was worth the small sacrifice in correct balance. The crank throws are repositioned by 5deg relative to a 60deg V6 so as to maintain even firing intervals. So, a great V6? Almost, helped by a short stroke and a revvy nature.

But a third Italian V6, that 60deg one designed by Giuseppe Busso, is just a touch sweeter and smoother and more straight six-like, and it sounds lovely in all its variations. Later Alfa Romeo V6s have felt gutsier (the GM-block-and-Alfa-heads one in the 159 and the Brera, with its curious 54deg vee angle) or more explosive (the Ferrari-derived one to which Richard referred with a V8-descended 90deg vee angle), but none has the Busso's sense of mechanical purity.

The Busso is a great V6 on every level, which gives one strong riposte to Richard's argument. Another to disprove his contention is the one that he feared I might nominate, the original Honda NSX motor. It has a short-stroke, clever VTEC valve gear, aluminium construction and a ferocious appetite for smooth and sonorous revs. Proving that convention is readily confounded, it has a 90deg vee angle that just doesn't seem to matter. No doubt the titanium conrods help with that balancing business.

So, is it the greatest V6 and a great engine regardless of configuration? I say yes, but now think back to those ideal angles between banks: 60deg or multiples thereof. How about 180deg? It makes for an

unrecognisably shallow vee, but it also gives us a Porsche 911 engine in its many guises. There you have it: a truly great two-bank six-pot. It just has rather a flat vee angle. **A**



911 uses a V6, see, except the vee is flat...

SHARE YOUR VIEWS
autocar@haymarket.com



For us, Honda NSX's 3.0/3.2-litre engine is the best-ever V6

YOUR VIEWS

WRITE TO
autocar@haymarket.com

Micra aggression

Could you please tell me why the newly fitted sensors on my 2022 Nissan Micra keep beeping at most irregular moments? The beeping is literally driving me crazy.

Janette Howell

Via email

Welcome to the driving experience of today, Janette. You can send your thanks to European law makers – KC

Your country needs you

I'm asking Autocar and its readers to support the thousands opposing the expansion of the Ultra Low Emission Zone in London.

So many people will be affected, including: parents taking their children to school and after-school activities; young drivers; drivers earning minimum wage; people living in areas where there's not adequate public transport; those whose shifts span midnight from one day to another, thus incurring two charges; the elderly and infirm who rely on cars to get them to their medical appointments; carers who visit various clients several times a day; small business owners for whom public transport isn't practical; and industries centred on automotive and therefore the UK economy.

The carbon footprint of scrapping thousands of roadworthy cars is obscene, and the carbon footprint of producing new BEVs is dreadful, so how can the ULEZ expansion be good for the environment overall?

If this extension isn't halted for London, it will surely be copied by the many other UK cities that have congestion charge schemes.

Businesses supplying goods and services will be forced to lay off staff, increase their prices or close. This will no doubt impact the cost of living and therefore the disposable income of people across the UK.

I hope you can rally to the cause, as I and many others in London and beyond will have our lives seriously affected by this awful scheme.

Carol Kitchener

London



London ULEZ will go from blue to green

PETER LIDIARD

LETTER OF THE WEEK



Shining a light on prices

Matt Prior's excellent Tester's Notes from the 15 February issue might just have been a bit optimistic about future headlight unit costs.

I broke the outer plastic shell of my Alfa Romeo Giulia's offside headlight at the end of last year. My Southampton Alfa dealer's repair branch told me the part would cost more than £1660 [VAT included but not the labour]. They said no part of the unit could be reused.

This implies that if any of the LED or xenon elements were to fail, the whole unit would have to be replaced – a worry, noting the inclusion of daytime-running lights, indicators, cornering lights etc.

To top everything off, the repairers threw away the damaged unit, despite my specific request to have it returned to me.

It wasn't a surprise, then, that Alfa Romeo UK didn't contact me to ask how happy I was with the experience.

John Sheppard

Portsmouth

These crazy costs certainly aren't exclusive to Alfa Romeo, either – KC

Head to the courts

I've just read of the woes caused by the London ULEZ and the pending doom of it expanding further.

Some local councils will fight the mayor legally. I can't understand why the 400,000 affected motorists haven't brought a class action too: surely as long as any ICE vehicle isn't exceeding its legal emissions, tested annually by the MOT, the ULEZ isn't legally enforceable?

Come on, you city dwellers: start taking action. Remember, London is served by five airports, and all of those dirty commercial jets pay less than 10p in duty on every £1 of fuel.

Dave Jewitt

Yorkshire

It's just as grim up north

I concur with Dan Adler (Your Views, 15 February): insuring a new Range Rover is a bit of a nightmare.

We used an insurance broker, and the insurer actually looked on Google Earth to ensure that my stated parking was out of sight of the road and that we had electric gates (a must), plus the car had to be fitted with a No Go immobiliser.

Because the Range Rover might attract unwanted attention, another high-value car of ours had to have the same immobiliser fitted too.

Had we lived in London, it would have been a straight refusal.

Keith G

Yorkshire

WIN
Letter of the week
wins this ValetPRO
exterior protection
and maintenance kit
worth £48



Valet PRO
PROFESSIONAL VALETING SUPPLIES



How often will A110 need to visit garage?

Alpine reliability

Having test driven an early Alpine A110, I am enjoying Andrew Frankel's reports on your long-term test car. It's certainly on my list – or rather it was.

Having read Which?'s recent Least Reliable New Cars Guide, it would appear that the Alpine has the highest unreliability score of any new car on sale in the UK today, with 58% of respondents reporting their cars as 'faulty' and 52% experiencing breakdowns.

Most of the faults have been dealt with under 'recall', but surely the breakdown ratio is unacceptable. So should real-world motorists gamble on the Alpine or default to the Porsche 718 Boxster/Cayman?

Graham Martin

Via email

The A110 didn't feature in our sister title What Car?'s latest Reliability Survey, but the 718 did, and 44% of owners reported issues – KC

Defence of CX-60

I own a Mazda CX-60 plug-in hybrid and am happy with it, although I agree with most of Felix Page's comments on your long-term test car. However, I must take issue with his MPG reports, because someone with no home charger isn't among the target audience for a PHEV.

A PHEV will have a wide variance of MPG for different people, based on their personal circumstances



and needs. I, for instance, do have a home charger (fitted at an attractive discounted price through a Mazda/Pod Point deal) and use it regularly.

I experimented on a 100-mile mixed-roads drive using only petrol power and got 36mpg – not too dissimilar to Page's average. I can get into the high-80s, but my average over 4500 miles and charged solely at home is 59.4mpg – far higher than your test best of 44.6mpg.

My car's petrol engine kicks in seamlessly on long drives or when I choose to use the extra power. It's creamy smooth in normal driving and delightfully rorty at full power.

Peter Inwood
Stoke-on-Trent

Ultimate stopping machine

I noticed the Mercedes-Benz EQS has inferior braking performance to the rival BMW iX. Going back over three years' worth of Autocar copies, I found nearly all Mercedes tested had poorer performance in this regard, yet this hasn't been commented on by your testers.

As an owner of Mercedes over 30 years, I haven't felt short-changed in the braking department, but I would welcome your comments.

Richard Abadee

Via email

The EQS's poorer stopping distance was much more likely to do with the weather than anything else. There's no evidence to suggest Mercedes has any particular problem in this regard – MS

Sorry, what?

I simply don't understand two items in the 15 February issue. James Disdale writes that the Maserati Granturismo is "more faithful than the Aston Martin DB11" and Matt Saunders writes that the Mazda CX-60's suspension is "slightly sproingy". What do they mean?

I'm not being pedantic. I truly don't understand what these writers intend to tell me. Where is the sub-editor? He should spot these points.

On the plus side, the article on pages 54-57 is excellent.

JB Cook

Via email

The sub-editor is here. He doesn't mind 'faithful' to mean 'responsive to your commands', nor neologisms such as 'sproingy', meaning 'a noisy, under-isolated ride' – KC

Peter can get nearly 90mpg in his plug-in hybrid Mazda CX-60



GREAT REASONS TO BUY

NEXT WEEK'S ISSUE

ON SALE 15 MARCH

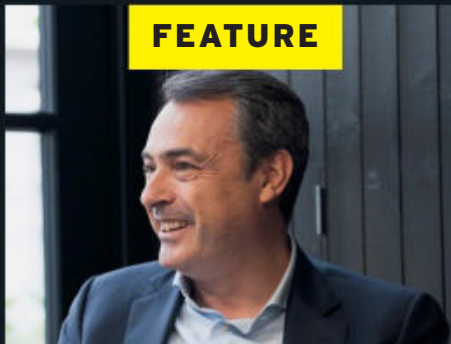
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Britain's best budget car

Not everything has to be a £100,000 SUV. Our five-car budget special shows just how brilliant the options are for less than £15,000

FEATURE



Massimo Fumarola

Morgan has a new boss and we have the exclusive first interview with him

INVESTIGATION



Battery materials

Just how clean and green is EV battery production? We investigate

EVERY WEEK

DRIVEN



Polestar 2 BST 270

EV gets more power and torque, plus chassis and suspension tweaks

USED GUIDE



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It will be off sale forever soon. Here's why you should buy a used one now

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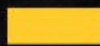
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Autocar's top cars that made BMW M great 

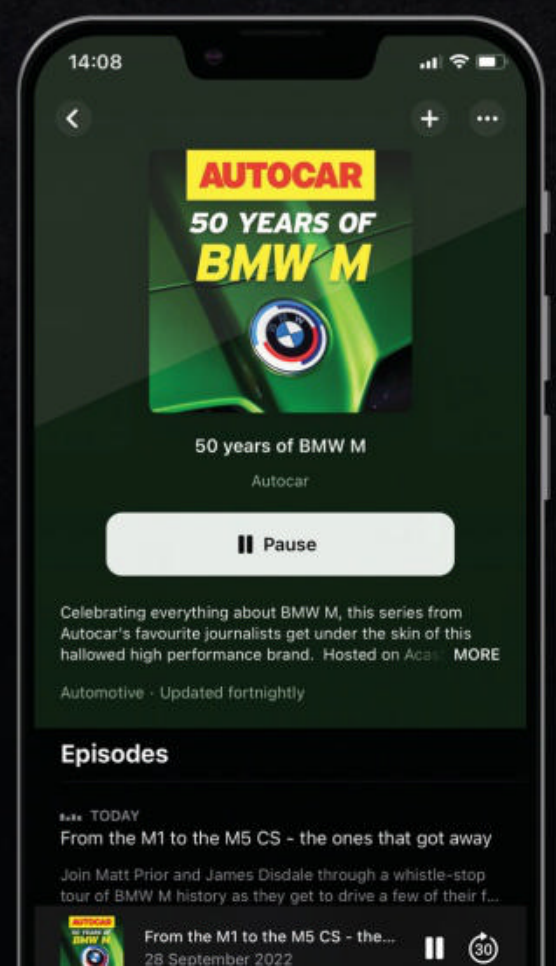
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**SCAN ME &
LISTEN NOW**



The Autocar ON THIS DAY IN 1930



Get behind the wheel

IT WAS ALREADY “difficult to imagine anything like a full and complete life without a car” by 1930, so we urged the few who hadn’t yet “taken the plunge” to do so, providing all the required information in a special issue.

Driving tuition was available but amazingly not compulsory.

“Considerations of time and expense may preclude your taking definite lessons, but if you buy your car from a firm of dealers of repute, you can be assured [they] will undertake to impart the rudiments,” we said.

“Instead of treating the whole process as an unwelcome means to a desired end, try to look upon the handling of a car in an efficient and rational manner as something at least as well worth cultivating as your golf or tennis.”

Thanks to great advances in reliability, one didn’t even need mechanical knowledge to be able to drive without worry, although of course the more one did learn about maintenance the better.

We also advised joining the AA or RAC for the “comforting knowledge that assistance can be obtained on almost any road in Britain”, a key to their always operational roadside telephone boxes and no-cost legal defence.

For your first year of driving, having bought a typical 40mpg motor in the 8hp tax class (an MG M-Type, say), we recommended a budget of £39 – about £2020 today.

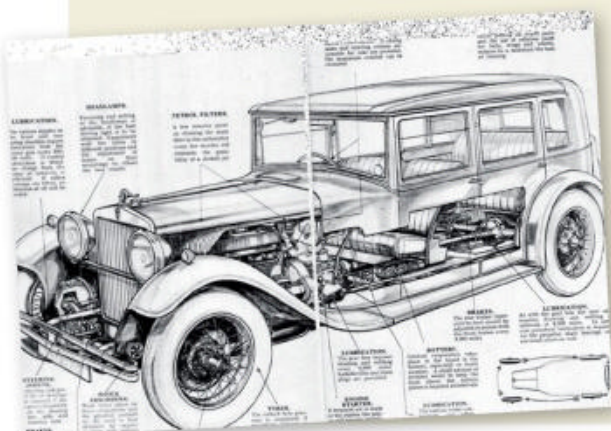
KRIS CULMER

The simple business of maintaining your car

If as a new driver you did intend to maintain your car’s mechanicals yourself, there was far, far more to know about and to keep on top of than there is today.

Most cars had nipples on their spring shackles that needed lubricating every 300-500 miles, and you had to grease the steering parts, the front wheels’ inner hubs, the brake connections, other moving parts under the car and the starter motor. You had to drain and refill the oil in the sump every 2500 miles and that in the gearbox and rear axle every 3000 miles, plus some cars required periodical lubrication of their propshaft bearings and universal joints. The front and rear brakes and handbrake needed adjusting every 3000 miles, you had to keep the battery topped up with distilled water as it evaporated and you had to check the tyres’ pressures periodically and rotate them about the car as their treads wore.

Under the bonnet, the carburettor’s main filter needed frequent cleaning; you had to fit new spark plugs every 10,000 miles; the cylinders needed decarbonising every 5000-8000 miles; valve clearances had to be kept track of; the fanbelt wanted tightening every now and again; the clutch needed adjusting after 1000 miles; the distributor had to be lubricated; the oil filter needed cleaning every 1000-2000 miles; and you had to keep the oil level up. In other words, a full-time job!



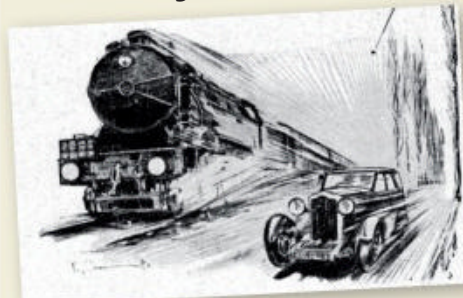
Bonnet mascot astrology

Mascots were a common accessory in 1930; we estimated that 20% of cars bore one. “Even among hard-headed businessmen there is a vein of superstition,” we explained. “The idea is that the magical properties of images and emblems are expressive of certain active principles in nature, and when use is made of such things, they become a focus for the rays of the heavenly bodies and infuse vibrations of their nature into the atmosphere of the owner.” Quite.

Mascots were matched to your birthday or profession. An eagle, for example, would bring double luck to a cinema manager born in early April.

British cars beat Blue Train

Rail had for decades been *the* way to do big distances, and one of the most famous services was Le Train Bleu, which took the rich from Calais to the Riviera. So what better publicity stunt for a car maker than to outrun it? In January 1930, Rover triumphed where several had failed with its new Light Six, arriving 20 minutes ahead after 20 hours almost non-stop. Two months later, a margin of two hours was achieved by an Alvis Silver Eagle. And then, most famously, a Bentley Speed Six arrived in London minutes before the big loco reached Calais.



GETTY IMAGES

OUR CARS

FEATURED THIS WEEK



ALPINE A110



CITROEN C5 AIRCROSS



ORA FUNKY CAT



PEUGEOT 308



RENAULT MEGANE



SKODA ENYAQ IV vRS



TOYOTA YARIS CROSS



RENAULT MEGANE E-TECH ELECTRIC

We welcome the forgotten family hatch reinvented as a 'sensual tech' crossover EV

FIRST REPORT

WHY WE'RE RUNNING IT

Has going electric broadened the appeal of Renault's family hatchback?

That the fifth generation of Renault's once big-selling family car bears almost no resemblance to its predecessor should really come as no surprise, because the Mégane is a model that has a history of being reinvented.

The shift from the rather traditional (and, dare we say it, rather dull) Mk1 to the legendarily big-bottomed Mk2 was night and day, then it somehow managed to turn itself into a benchmark hot hatchback before drifting back into obscurity with the slightly unmemorable Mk4.

There's little chance of this latest

Mégane (or Mégane E-Tech Electric, to deploy its full title) fading from memory any time soon, because it's a very distinctive-looking machine. A very handsome one, too: Renault calls its design ethos 'sensual tech', but to me it's swoopily futuristic from the front, pert and neat from the rear and cleverly treading the line between hatchback and SUV with proportions that bring to mind the Range Rover Evoque at a glance.

That upmarket association should please Renault's designers, but it does lead to a bit of over-promising and under-delivering, because if you're expecting compact SUV spaciousness, you will be disappointed. Inside, this is resolutely a hatchback, and a relatively tight one as well, particularly in the rear compartment if the driver is tall. Add in the high window sill

line and low roof line that combine to make the car look so good and it results in a very enclosed and oppressive feel, along with severely restricted vision to the rear.

This is particularly disappointing when Renault has cited improving interior accommodation as part of the reason for its decision not to switch the Mégane from front-to-rear-wheel drive.

That does at least mean a very generous boot, although more in terms of depth than length, due to a stubby rump. (Honourable mention here for the decent-size underfloor cubby for your charging cables, so they aren't left to slide around in the boot.)

I'm well aware that I'm not the most sylphlike of drivers, but I do find myself feeling a bit like an ogre in the Mégane, bashing my hip on the way in and knocking my knees

SECOND OPINION



Based on several hundred miles of experience, the Mégane is great in every way bar possibly the most important one: range. In cold weather, I saw just 138 miles indicated from a full charge. Let's hope that was a calculation error. **JH**



Another SUV with 'hidden' rear handles

“There are elements that I love and others that are already driving me a bit mad”



and elbows against the hard plastics of the door, dashboard and armrest once ensconced.

Still, once in and settled it's a nice place to be: the seats are comfortable, the cloth-covered dash is attractive (although it will be interesting to see if its pale colour causes any reflection problems when summer rolls around) and the equipment is generous in this mid-range Techno spec, which also brings the 20in diamond-cut alloy wheels that further contribute to the car's good looks.

One area where there's no choice is in powertrain: the new Mégane comes only with a single motor up front and a 60kWh battery pack.

Our road testers posted 6.9sec to 60mph, and it certainly feels that brisk, although presumably they had to modulate the throttle quite carefully, because a major drawback of that decision to keep front-wheel drive without the heft of a combustion engine sitting over the driven axle is a fairly serious lack of traction.

The CMF-EV platform on which the Mégane sits does allow for four-wheel drive via a second motor at the rear, though, which bodes well for sharper getaways in any potential future RS versions.

Apart from the challenges of deploying the power, the Mégane

feels sporty enough, thanks to the sharp steering. This has divided opinion, but I quite enjoy it, as it makes the car feel agile without marring its greatest strength: superb refinement, courtesy of a quiet, well-damped ride and remarkable isolation from the outside world for a car in this class.

Now from a big green tick to a large red cross, and it surrounds that ever-present EV preoccupation: range. Renault says this car will do 280 miles on a charge, but my time with it so far has been largely in chilly or downright freezing conditions, which has brutalised those figures. It hasn't been helped by mainly being used for shuttling local runs and cross-town commutes, but still 150-160 miles on a charge has been the norm, around 200 the best and 137 the worst.

It makes me wonder how the 40kWh version available on the continent does, and it's no surprise to see that Renault has announced a new range-topping Iconic spec that includes an all-important heat pump, which should boost the range by up to 9% in cooler weather as well as capturing and reusing wasted heat for the cabin.

So my early impressions are a mixed bag. There are elements that I really love about the Mégane and others that really frustrate and are already driving me a bit mad. It will be interesting to see which way the balance tips over the coming months.

ALASTAIR CLEMENTS

TEST DATA

RENAULT MEGANE E-TECH ELECTRIC TECHNO EV60

Price new £38,495 Price as tested £39,445

Options Ceramic Grey paint with Diamond Black roof £950 Faults None Expenses None Range 280 miles (WLTP) Economy 3.9mpkWh (WLTP)

OWN ONE? SHARE YOUR EXPERIENCE
alastair.clements@haymarket.com

TOYOTA YARIS CROSS

It won't win over enthusiasts but does have some decent on-road qualities

MILEAGE 3314

WHY WE'RE RUNNING IT

To see why people are scrambling for this latest hybrid crossover offering

"S

o, how are you getting on with the Yaris Cross?"
"...Er... Yep... It's definitely a car."

That conversation has repeated itself several times in my first few weeks with this latest Toyota. This inarticulateness is in fact less about my personal convictions on hybrids or crossovers, and more because this car doesn't ride, handle or perform in any way that's really outstanding, sub-par or unusual. That's why Matt Prior said exactly the same after he took it for a week.

It's actually not quite the criticism it appears to be, though, as I alluded to in my opening report. Engineers would underestimate the difficulty of making 'just another car' at their peril. The fact that I draw a blank when asked to criticise anything about the Yaris Cross's on-road character is perhaps quite a backhanded compliment.

So, having stared at the tall Yaris out of my window, had a cup of tea and stared a bit more, here are my properly formulated impressions.

LOVE IT

GREEN KING

Although it strains when I'm pushing on the motorway, it's really efficient on urban trips.

LOATHE IT

LAME KEEPING ASSIST

I've tried giving it the benefit of the doubt, but it's fast used up the little patience I had for a car beeping at me and yanking at the wheel.

It rides surprisingly decently for a small but tall car. Not here for Toyota the needless reduction of tyre sidewalls, nor the even more unseemly stiffening of springs and dampers. It doesn't squidge along, but I recall the Nissan Juke Hybrid hitting harder over potholes. This Yaris Cross just rides like an iron moves over a shirt, smoothing over the creases but still alerting your hands to the presence of buttons.

There's greater performance than I had expected when I read 114bhp too, I suspect because of the heavy influence that the electric side of the powertrain has at lower speeds. If I floor it away from junctions, it leaps forth in a linear and surprisingly quick fashion, although rolling acceleration is fairly pedestrian.

The electric motor's strength is also, I suspect, the reason why the urban MPG figure is high – if not the overall average, my right foot being more Opec than XR on my regular motorway commutes. I've been surprised to see the signifier for EV mode illuminating on the motorway, not just in the car park, and I haven't tried locking it in yet.

I'll do a few experiments, taking note of the results displayed on the digital driver's information display, and report back in detail soon.

KRIS CULMER

TEST DATA

TOYOTA YARIS CROSS 1.5 HYBRID DESIGN E-CVT

Price £26,530 Price as tested £27,645

Faults None Expenses None

Economy 39.0mpg Last seen 22.2.23

OWN ONE? SHARE YOUR EXPERIENCE
kris.culmer@haymarket.com



Countryside blasts are not much fun, but at least the chassis copes



PEUGEOT 308 SW

Frustration with driving experience grows – but so does appreciation for design

MILEAGE 10,584

WHY WE'RE RUNNING IT

To see if an electrified estate has a place in a world of crossover competitors

I've spent more time over the past few weeks driving the 308 SW in Sport mode, which adds a bit of punch to its acceleration. As per Peugeot's description, it "uses all of the power of internal combustion and electric engines for maximum performance".

Truth be told, Sport mode doesn't seem to make that much difference with the plug-in hybrid powertrain, the additional weight probably primarily responsible for holding our car back. An official 0-62mph time of 7.7sec isn't bad, but I'm often left feeling that the noise emitting from the petrol engine should warrant a bit more poke.

LOVE IT

WIRELESS APPLE CARPLAY

Open the door, start the engine and you're connected. It's much less hassle than having to plug in your iPhone with a cable.

LOATHE IT

BATTERY USAGE

There is no combustion-only driving mode, so a full charge is spent halfway through my 70-mile commute, before I really need it.



Estate body adds space and style; not the most convincing PHEV powertrain

However, the most frustrating part of the day-to-day experience is the eight-speed automatic gearbox. Changing up is generally quite smooth, but it's slow to shift down.

This is most noticeable on the shift from eighth down to seventh, which I have to do manually with the paddle shifters to avoid a nasty growl from the straining engine.

It's also a bit slow to change at lower speeds, too, which I've noticed most when driving through a traffic-filled Twickenham town centre on my journeys to work.

The engine is also really loud when you are stationary in traffic and have no remaining electric range. Perhaps with greater use of the regenerative braking, a full charge will get me over the halfway mark on my 70-mile commute.



These gripes aren't enough to fully dampen my enthusiasm for the 308, though, as I am still completely sold on its design – particularly the sabre-tooth headlights and the stylish black front grille.

Our car shares much of its features with the rest of the Peugeot range but nonetheless remains interesting. It never fails to turn heads, despite the increasing number of Peugeots on our roads.

Our estate variant bumps the style up to 11 with its bespoke rear-end design, and the Halong diamond-cut alloy wheels are dramatic but not too over the top.

Granted, the salt, mud and dirt under them at this time of year mean I don't get many opportunities to properly show off the Elixir Red

paintwork, but whenever I give it a clean, I'm reminded of just how good it looks.

On yet another trip down to the south coast, I was surprised to come across another new-shape 308 estate – the first that I had seen in public. It was in the same Allure Premium specification as our car but sported the basic Avatar Blue paint. I thought it looked a little too understated and would definitely consider spending the extra £695 on that eye-catching Elixir Red if it were my money.

The 308 is slightly let down by a 'feature' that seems to be plaguing most new cars on the road today: fake exhaust pipes. As is often the case, this attempt to conjure an impression of sporty prowess just ends up looking a bit silly on a car with less than 200bhp and a rather mid-range PHEV powertrain. If absolutely necessary, at least limit them to the range-topping GT-Line.

JACK WARRICK

TEST DATA

PEUGEOT 308 SW HYBRID 180 ALLURE PREMIUM

Price £35,650 **Price as tested** £36,345

Faults Camera glitches, radio signal issues, alarm, locking failure **Expenses** None

Economy 54.3mpg **Last seen** 1.3.23

OWN ONE? SHARE YOUR EXPERIENCE

jack.warrick@haymarket.com



SKODA ENYAQ iV vRS

A 220-mile commute in a car with a 323-mile range. Easy, right?

MILEAGE 2672

WHY WE'RE RUNNING IT

To see if a vRS badge can make an electric car exciting

To a certain extent, we try not to pigeonhole a particular type of car with a particular type of custodian on our long-term fleet. But there are some limitations – and my commute is the biggie for me, which makes the Enyaq iV vRS an intriguing electric car to run. With a theoretical claimed range of 323 miles, it should get me from Lincolnshire to London and back without having to bother a plug. 'Should' is the operative word. The car arrived during a cold snap, the readout read 220 miles with 100% charge and it's not really budged since.

Granted, my 220-mile round commute is at the extreme end of what most people do. I'm lucky, in that there are chargers at the office and, although the car park is always a bit of a bun fight, I can generally get enough juice into the Enyaq before heading home again.

LOVE IT

A STEADY HAND

The little thumb/wrist rest under the touchscreen. It's padded too.

LOATHE IT

A LONG STRETCH

My stubby arms can't quite reach the far side of the touchscreen.



Ward's drive is Lincs-London-plug-Lincs

My wider point here is the discrepancy between theory and reality. The Skoda is not unique, as no EV gets what is claimed, just like ICE cars seldom get the combined WLTP fuel economy figure. But a drop of 103 miles represents nearly a third...

We've also had some shockingly low efficiency runs, dipping as far as 1.3mpkWh, translating to 100 miles of range. It was the worst possible scenario – a set of short journeys, a freezing cold day, no cabin pre-conditioning – but even so, that's a properly frightening number.

The dilemma is that, in an ideal world, batteries should be charged to 80% to maintain their performance over their lifetime. Always charging to 100% is a bit like constantly maxing the revs on a combustion engine: it's doable but not advisable. So there's a quandary between short-term range and long-term battery performance.

As far as solutions go, warming the cabin before you set off is one,



to use mains electric to heat the car pre-journey, rather than chewing through the car battery's juice.

The other option is a battery heat pump, not fitted on our car. They're more efficient than traditional fan heaters but in the Enyaq, like in a lot of others, it's an add-on – a £1025 one. On a £55k car. It seems strange it isn't standard.

Range anxiety isn't what it was (except for people who live a stupidly long way from the office...) but it's still in the population's psyche. If I were a car maker, I'd do everything to reduce it.

PIERS WARD

TEST DATA

SKODA ENYAQ COUPE iV vRS

Price £54,370 Price as tested £54,990
Faults None Expenses None Range 220 miles
Economy 2.5mpkWh Last seen 22.2.23

OWN ONE? SHARE YOUR EXPERIENCE
piers.ward@haymarket.com



Ora Funky Cat

MILEAGE 1270

LAST SEEN 22.2.23

You'd expect a car this squat and compact to count urban manoeuvrability among its core attributes, but the Cat is not as easy to thread around London as I'd hoped. Its turning circle of 11.2m is a metre wider than the VW ID 3's and makes this as easy to park outside my flat as the average crossover. Thank goodness for chunky tyre sidewalls and short overhangs. **FP**



Alpine A110

MILEAGE 6608

LAST SEEN 22.2.23

The A110's Sport mode gives me what I want – primarily a sharpened throttle response – without ruining the excellent ride. But why do the dials change too, from the clear and attractive clocks to this altogether less satisfactory display? Who's looking at torque and horsepower numbers when driving fast? Not me: I'd sooner be watching the road. **AF**



Citroën C5 Aircross

MILEAGE 10,922

LAST SEEN 1.3.23

Our C5 PHEV's economy continues to fall and MPG is now in the low 30s. But its usability quirks are starting to bother me more: principally, that altering the heater temperature, or flicking on the demister, needs several jabs at the touchscreen. With physical controls, you can do this through your peripheral vision. Here, it requires all of your attention. **LL**

USED CARS

What to buy, where to buy it and how much to pay

**AS GOOD
AS NEW**

HONDA CIVIC TYPE R

This 2017-2021 hot hatch was lauded when new. **Oliver Young** says it's just as entertaining to drive today, only cheaper



In 2002, the front-drive Ford Focus RS torque-steered onto the hot hatch scene. It had 212bhp. Fifteen years later, Honda boosted its front-drive Civic Type R to 316bhp and promised different results. The promise was kept.

It came as quite a revelation: all that grunt going through the front wheels and yet it didn't tear itself apart. It's a testament to the Type R's engineering magic – the same magic that causes people to rave about its pin-sharp handling, poise and composure.

Take the suspension. It's a great example of what we're talking about, because it's reasonably compliant yet also delivers the flat cornering and quick direction changes you expect from a performance car. The adaptive dampers can be altered via modes ranging from Comfort to track-

focused +R.

This is a true driver's car – one of the best in recent years. The steering is nicely weighted, communicative and direct, while the gearshift of its six-speed manual 'box is short, sharp and sweet. In terms of driving involvement, Autocar editor-at-large Matt Prior once described the Type R as "the closest a hot hatch comes to something like a GT Porsche" – and that's high praise indeed.

The 2.0-litre four-cylinder engine deserves praise as well. Honda's famed VTEC variable valve timing is present, although this iteration of it adjusts the degree of exhaust-valve lift to reduce turbo lag.

OUR TOP SPEC TYPE R GT

The Type R GT is half the price of a Limited Edition yet every bit as good. To some, the Sport Line is perhaps easier on the eye but you'll be known as the person who bought the toned-down Type R.

It's another example of intelligent engineering and helps make the engine quick to respond and eager to rev to its 7200rpm redline. You will also see 0-60mph in 5.7sec.

The engine is far from your wallet's worst nightmare, either. Average fuel economy is rated at 36.7mpg and, with a light right foot, you can see close to 40mpg. Overall running costs are not intimidating and nor is this a fearsomely expensive car to buy in the first place.

A budget of around £25,000 gives you access to 2017 and 2018 cars and mileages tend to float around the 45,000 mark. Around £30,000 gets you into a 2020 car, which could be a compelling choice because of a subtle facelift that included retuned suspension, better brakes and a new gearknob. In reality, it all adds



Its front seats are ace: supportive and comfortable

BUYER BEWARE

CHECK THE OWNER TOO

These cars are built to be driven hard, so don't be immediately put off if you find one that has been. That said, it is still well worth looking for signs of careful ownership – such as an owner who allows the car to warm up before using full throttle.

INSURANCE AND SERVICING

Although the Limited Edition falls into insurance group 41, the regular Type R is in group 38. This is on a par with hot hatches of its calibre. Honda offers fixed-price servicing and Type R plans tend to hover around £350 (for a single service).



James Ruppert

KICKING TYRES

Not all used cars are par for the course just now, such as a 940



Are used cars running out yet? I don't think so, but some dealers have been selling real oddities that they might have steered clear of a few years ago. In search of new stock, they now have what can only be described as some big-milers and recent practical classics. I'm sure they know what they are doing. It is, though, up to buyers to make a leap of faith, and anyway if there's a problem, dealers have to sort it out.

Exhibit A is an old-school breeze-block Volvo estate – not the first I have seen recently, either. This one is a wonderful 1995 940 LPT SE and is barely run-in at 185,000 miles. It will come with a fresh MOT upon sale, which is jolly reassuring, especially as the current test carries no advisories. It is a part-exchange sale, but what a lovely big, practical thing to own – and it will only cost you just over £2000.

Mind you, a more modern load-lugger estate might be this Renault Mégane Tourer, a 2011 example in 1.9 dCi GT Line TomTom spec. That's tempting, as is the price – £1700 – but what might put you off is the whopping 170,000 mileage. That's something that used to frighten away the dealers, but now this car is front and centre of the forecourt.

Further proof that dealers are keen to retail almost anything is the appearance of a 2007 Fiat Bravo when we probably thought they had all been crushed. They are handsome hatches and this 1.4 Active has a reasonable, 70,000 mileage and all for £1500. It's not a bad price, but a few years ago this would have been comfortably less than a grand.

Then again, cut out the dealer and buy direct from a private owner with a 'new car forces sale' classified ad because they will have

“Some dealers are selling real oddities they might have previously avoided”

had only insultingly low offers and be keen to hear your more generous bid. I think this 2009 Volkswagen Golf 2.0 TDI SE, a three-door with a few previous owners and a touch over 150,000 miles, is just such a candidate. Plenty of recent history, a fresh service and tidy bodywork. The asking price of £1750 is fair enough, but I reckon £1500 would buy it easily.

A great car for not much at all, proving that it pays to shop around and there are still enough decent, cheap used cars to keep the country ticking over.

BANGERNOMICS

Cheerio to the Ford Fiesta, which is a shame, but it will be a great used buy for decades to come. Interestingly, Car and Classic told me that searches on their site for Mk1s is up 150%. Can't be many of those left, but there are loads of cheap Mk5s and Mk6s.



up to just a slight improvement overall, but it's an improvement, nonetheless.

Late cars from 2021 rise to around £35,000, and then we come to the special editions. The Type R Sport Line loses the big wing and gains a softer ride. Again, it will cost you around £35,000.

The Type R Limited Edition was restricted to just 20 examples in the UK and it goes in the opposite direction to the Sport Line. It gets bright yellow paint, a 47kg saving (via its forged wheels and lack of infotainment, among other alterations) and a price of around £55,000. And yes, that's used.

But no matter which Type R you opt for, you're getting a class-leading hot hatch for keen drivers yet one that's also remarkably well rounded. It's a prime example of a car that's more than the sum of its (beautifully engineered) parts.



Limited Edition (pictured) is rare; all drive brilliantly

NEED TO KNOW

- Apart from the absence of a fifth seat, the Civic Type R is impressively practical. It has one of the most spacious cabins in its class and four adults can fit comfortably. Its boot is particularly large as well.
- From new, standard equipment included 20in alloy wheels, adaptive dampers, LED headlights and a reversing camera.
- In the latest What Car? Reliability Survey, Honda ranked 12th out of 32 manufacturers.

OUR PICK

LIMITED EDITION

If your pockets run deep and the Limited Edition intrigues you, we can see the appeal. With its rarity, it makes sense as an investment. Do drive it, though, because all Type Rs should be enjoyed.

WILD CARD

RENAULT MEGANE RS

Another front-drive hot hatch with its own engineering trick: four-wheel steering, which makes it very agile. Not as powerful or plush as a Type R but still quick and daily drivable.



S CLUB HEAVEN

If you want a world-class limo for £3000, **Oliver Young** says to reach for the star

Putting aside anything bearing the Spirit of Ecstasy or similar, is there a luxury saloon more revered than the Mercedes-Benz S-Class? We think not, particularly in fifth-generation form. Between 2006 and 2013, everyone from celebrities to world leaders got around in them, often sitting behind a chauffeur.

These days, it's an uncommon sight. After all, the W221-era S-Class has long since been succeeded. That's no bad thing, though. Now they have fully descended into the used market and examples are in reach of anyone with as little as £3000. Fancy a V8 one? There are

some listed for less than £10,000.

The extensive engine line-up ranges from the S280's 3.0-litre V6 to the S65's 6.0-litre V12, although most buyers opt for the S320 and S350 CDi diesels. They have 232bhp and 268bhp respectively, with the S320 linked to pre-facelift cars (before 2010) and the S350 to those after.

Let's circle back to that V12, though, because it's ridiculous – in

a good way. With 603bhp and twin turbos at its disposal, this engine pushes the 2.2-tonne S65 from 0-60mph in 4.4sec. Even the lesser S63, with a 6.2-litre or 5.5-litre V8 (depending on, again, which side of the facelift it falls under), puts in a sub-5.0sec effort.

Numbers tell you only so much, of course, so how does the S-Class drive? It deals with bumps like they don't exist and is about as quiet as

a church. The seats are suitably plush, too, with lots of adjustment and, should the original owner have chosen it, a massage function.

As for handling, this heavy machine is surprisingly competent. It's no sports car, but there's a good level of precision, poise and balance. You also get a reasonable degree of feel coming through the steering, even though its weighting is very light.

What isn't surprising is the impressive level of tech. The S-Class is always the first to get any new systems that Mercedes produces, and this iteration of it is no exception. To name a few, there's Active Lane Keeping Assist,

“
**Everyone from celebrities to world
leaders got around in them**
”

HOW TO GET ONE IN YOUR GARAGE

Progress in an S-Class is quiet, relaxed and easy



Ensure it's all in working order, as repair can be pricey



WHAT WE SAID THEN 14 FEBRUARY 2006

"Pretty it ain't, but the S320 CDI is still a tour de force. Fast and frugal, luxurious yet rewarding, it incorporates brain-melting technology into what remains conceptually a traditionalist's luxury car. It is the new class benchmark."

Active Blind Spot Assist, Attention Assist and DISTRONIC Plus radar cruise control, all of which were innovative options at the time.

It's a lot, isn't it, and we won't sugar-coat the fact that this isn't a Ford Fiesta in terms of maintenance. Fancy gadgets and air suspension are far from immune to

going awry, not to mention there's the fuel economy to think about.

Some of the lower-powered diesels can officially average more than 40mpg, sure, but get one of the V8s or V12s and you'll see much closer to 20mpg. It's also worth looking into insurance and road tax before you buy to ensure neither comes as an unwanted surprise.

However, the S-Class is a used car bargain to begin with, so we wouldn't blame you for stomaching these costs and diving in.

Nor would we blame you for hiring someone in a nice suit and tie to drive you around in it. This is a car that's easy to enjoy whichever seat you're in.

An expert's view

NICK YOUNG, SOUTHAMPTON CHAUFFEUR HIRE

"The S-Class has always been a chauffeur car at the top of its game. I progressed from the very competent E-Class to the fifth-generation S-Class (and subsequently the sixth). I had a S350 L and I found its 3.0-litre V6 diesel engine to be capable and good on fuel, while the long-wheelbase body provided lots of passenger leg room. It came with all the bells and whistles of the time, completing the luxury experience essential for all clients who want the highest-rated chauffeur service and are prepared to pay the premium. Mine was reliable and, though not a performance car, great to drive. I have no notable complaints."

Buyer beware

■ GEARBOX

Make sure the service regime has been followed. This includes changing the oil in the seven-speed automatic gearbox every 40,000 miles. Check that shifts are smooth as well.

■ SUSPENSION

Pay attention to the suspension on your test drive, because it should keep the car flat when cornering. If not, a new pump could be required.

■ INTERIOR

The Comand sat-nav system allows you to enter only a four-digit postcode, but Mercedes can upgrade it to seven-digit functionality. If this hasn't been done, it could be worth asking for the work to be completed before agreeing to buy the car.

■ ENGINE

With the diesel engines, listen for excessive rattling at idle. This could indicate a stretched timing chain and, if left unchecked, this can result in a catastrophic engine failure.

■ ELECTRICS

Electrical problems are common and repairs can be very expensive. Among the most prevalent issues are failed amplifiers, broken inflating seat bolsters and faulty keyless entry. Use a trickle charger to keep it topped up if you plan to leave the car standing for a long period, as a flat battery can play havoc with electrical systems.

■ EXTERIOR

Some owners report finding corrosion and blistered paint, so look over the car carefully before buying.

Also worth knowing

You'll want a long-wheelbase S-Class if you plan on chauffeur-ing. Perhaps obviously, these cars are denoted by an 'L' in their name. Fortunately, they are very common and don't always come at a premium. Versions range from the S320 L to the S65 L.

How much to spend

£3000-£4999

Early cars in S320 CDI guises. Mileages of around 150,000.

£5000-£9999

More of the above, with some S350 CDI and S500 cars in the mix. Mileages get closer to 100,000.

£10,000-£14,999

Facelifted S350 L examples in diesel form. Some S500 L and S600 L cars.

£15,000-£19,999

Mileages drop to around 50,000 and conditions become very respectable.

£20,000-£24,999

Early S63 L cars enter the fold.

£25,000-£40,000

More S600 L and S63 L cars in good nick, plus the S65 L.



One we found

MERCEDES-BENZ S600 L, 2006, 108,000 MILES, £12,995

A 5.5-litre V12 for the price of a new Dacia Sandero? Count us in. True, this S600 has done its fair share of miles, but it's had only one owner from new. It's also a long-wheelbase car – a great spec in general, actually.

NEW CARS A TO Z

For full reviews of every car listed here, visit our website, [autocar.co.uk](https://www.autocar.co.uk)

ECONOMY EXPLAINED

Between the various figures produced on the old-style NEDC, transitional NEDC Correlated and new-style WLTP laboratory emissions and fuel economy tests, it has become tricky to compare manufacturers' claimed efficiency on the latest new cars. When you see a fuel economy and CO₂ figure reference elsewhere, it's often without explanation.

So, to provide as fair and clear a basis for comparison as possible, you'll only ever read WLTP combined fuel economy and CO₂ figures in Autocar's first drive reviews, features and comparison tests – and on these data pages. Those are the aggregated results of four lab tests carried out across as many different cruising speed ranges – although they're sometimes expressed as a range rather than as one specific figure to show the different results recorded by the heaviest and lightest available examples of the car in question (depending on optional equipment).

In road tests, you'll also see our own independently produced real-world fuel economy test results for comparison with the lab test claims. We produce an average, track and touring figure for each car we test, as often as possible on a brim-to-brim test basis.

While 'average' represents the overall economy returned by a new car over a full road test and 'track' is relevant only to intensive performance testing (the length and conditions of which can vary slightly), 'touring' gives the best guide of the kind of economy you might see from a car at a steady 70mph motorway cruise.

We do real-world efficiency and range testing on electric cars, too, expressing the former in terms of miles per kilowatt hour, as manufacturers do increasingly widely by convention.

STAR RATINGS EXPLAINED

- ☆☆☆☆ Inherently dangerous/unsafe. Tragically, irredeemably flawed.
- ☆☆☆☆ Appalling. Massively significant failings.
- ☆☆☆☆ Very poor. Fails to meet any accepted class boundaries.
- ☆☆☆☆ Poor. Within acceptable class boundaries in a few areas. Still not recommendable.
- ☆☆☆☆ Off the pace. Below average in nearly all areas.
- ☆☆☆☆ Acceptable. About average in key areas, but disappoints.
- ☆☆☆☆ Competent. Above average in some areas, average in others. Outstanding in none.
- ☆☆☆☆ Good. Competitive in key areas.
- ☆☆☆☆ Very good. Very competitive in key areas, competitive in secondary respects.
- ☆☆☆☆ Excellent. Near class-leading in key areas and in some ways outstanding.
- ☆☆☆☆ Brilliant, unsurpassed. All but flawless.

ABARTH

595 3dr hatch/2dr open	£23,165–£27,315	★★★★☆
The Fiat 500's Abarth makeover makes it a true pocket rocket. LxWxH 3657x1627x1485 Kerb weight 1070kg		
1.4 T-jet 145	143 130 7.8	38.7-39.2 155
1.4 T-jet 165	162 135 7.3	37.7-38.2 155
1.4 T-jet 180 Competizione	177 140 6.9	36.7 156
1.4 T-jet 180 Esseeesse	177 140 6.7	36.7 160

695 3dr hatch/2dr open	£25,665–£32,015	★★★★☆
A convincing track-day 500 with decent dynamic ability, but overly firm ride spoils it. LxWxH 3657x1627x1485 Kerb weight 1045kg		
1.4 T-jet 180 Esseeesse	177 140 6.7	36.2-36.7 156

AC

Cobra 2dr open	£89,500–£145,000	★★★★☆
Can't match modern supercars but is pure driving indulgence. LxWxH 3657x1627x1485 Kerb weight 1100kg		
140 Charter Edition	350 na 6.0	na na
378 Superblower	650 155 4.1	na na
Series 1 Electric	650 308 6.7	150 0

Power (bhp)	Top speed (mph)	0-60/0-125mph	Economy (mpg/urban)	CO ₂ (g/km)
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ALFA ROMEO

Giulia 4dr saloon	£43,199–£52,199	★★★★☆
Handsome and special dynamically but lacks finesse and comes as an auto only. LxWxH 4643x1860x1436 Kerb weight 1429kg		
2.0 Turbo Petrol 200	197 146 6.6	36.2 176-184
2.0 Turbo Petrol 280	276 149 5.7	33.6 195

Tonale 5dr SUV		£38,595–£48,495		★★★★☆	
Decent dynamically and reasonable value. However, lacks the appeal expected from the marque. LxWxH 4528x1841x1601 Kerb weight 1525kg					
1.5 MHEV Speciale 5dr Auto	160	132	8.8	49.6	130
1.5 MHEV Ti 5dr Auto	160	132	8.8	49.6	130
1.5 MHEV Veloce 5dr Auto	160	132	8.8	49.6	130

Stelvio 5dr SUV £47,295–£58,595 ★★★★★

Alfa's second SUV is a solid effort. Choosing the petrol version gives it charisma. **LxWxH** 4687x1903x1671 **Kerb weight** 1604kg

2.2 Turbo Diesel 190	187	130	7.6	45.6	156
2.2 Turbo Diesel 210 Q4 AWD	207	134	6.6	42.8	162
2.0 Turbo 200 Q4 AWD	197	134	7.2	30.1	195
2.0 Turbo 280 Q4 AWD	276	143	5.7	30.4	195

ALPINE

A110 2dr coupé £49,990–£129,440 ★★★★★

A much, much greater car and achievement than the sum of its parts suggests. **LxWxH** 4180x1980x1252 **Kerb weight** 1080kg

1.8 Turbo	248	155	4.5	42.2	152
1.8 Turbo S	288	162	4.4	41.5	153
1.8 Turbo R	288	177	3.9	41.5	154

ARIEL

Atom 0dr open		£40,669		★★★★★	
Simple, purist concept remains but everything else has changed... for the better.					
LxWxH		3520x1880x1122		Kerb weight 595kg	
2.0 turbo	320	162	2.8	na	na

Nomad 0dr open		£37,549		★★★★★	
Well inside the top 10 list of our favourite cars. A revelation and a riot to drive. LxWxH 3215x1850x1425 Kerb weight 670kg					
2.4 K24i-VTEC	235	125	3.4	na	na

ASTON MARTIN

Vantage 2dr coupé/2dr open		£133,920-£165,420	★★★★☆	
The faster, cleverer, more hardcore entry-level Aston tops its class. LxWxH 4465x1942x1273 Kerb weight 1630kg				
4.0 V8	510	190-195	3.6-3.8	25.7 264
4.0 V8 F1 Edition	535	195	3.6	24.3 264

DB11 2dr coupé/2dr open		£166,070–£180,420		★★★★★	
The stunning replacement for the already seductive DB9 is tyre-shreddingly good. LxWxH 4739x2060x1279 Kerb weight 1875kg					
4.0 V8	528	192	4.0	25.1	254
5.2 V12 AMR	630	208	3.7	21.1	303

DBS 2dr coupé/open	£259,420–£279,920	★★★★★
Effortlessly fast, intoxicating to drive: the big Aston is better than ever. LxWxH 4712x2146x1280 Kerb weight 1693kg		
5.2 V12	715 211 3.4	20.9 306

DBX 5dr SUV		£168,420–£192,420		★★★★☆	
Doesn't try to be the biggest, fastest SUV, and may be all the more appealing for it. LxWxH 5039x1998x1680 Kerb weight 2245kg					
4.0 V8	550	181	4.5	19.8	323
4.0 V8 DBX 707	697	193	3.3	19.9	323

AUDI

A1 Sportback 5dr hatch		£20,665–£28,900		★★★★☆	
Quite pricey, but a rounded car with plenty of rational appeal.					
LxWxH 4029x1746x1418		Kerb weight 1105kg			
1.0 25 TFSI	94	118	10.8	48.7-50.4	128-133
1.0 30 TFSI	114	126	9.5	46.3-51.4	124-139
1.5 35 TFSI	148	137	7.7	44.1-44.8	142-145

A3 Sportback 5dr hatch		£26,045-£48,455		★★★★☆	
Bolder design and improved dynamics make the A3 stand out more than ever. LxWxH 4343x1816x1425 Kerb weight 1220kg					
1.0 30 TFSI	108	127	10.6	48.7-51.4	125-132
1.5 35 TFSI	148	139	8.7	46.3-50.4	128-138
2.0 40 TFSI quattro	201	150	6.9	38.7-40.4	159-166
2.0 40 TFSIe	201	141	7.6	235.4	29
2.0 45 TFSIe	242	144	6.8	235.4	29
2.0 S3 quattro	308	155	4.8	34.4-34.9	183-186
2.0 30 TDI	113	128	10.1	61.4-64.2	115-122
2.0 35 TDI	148	142	8.3	56.5-62.8	112-130
2.0 40 TDI quattro	198	151	6.8	47.9-50.4	148-155

A3 Saloon 4dr saloon £28,010-£49,020		★★★★☆			
Undercuts the case to own an A4. Upmarket interior and good to drive. LxWxH 4495x1984x1425 Kerb weight 1225kg					
1.0 30 TFSI	108	130	10.6	50.4-51.4	124-128
1.5 35 TFSI	148	144	8.7	47.9-50.4	127-134
2.0 40 TFSI quattro	201	154	7.0	39.2-40.9	157-165
2.0 S3 quattro	308	155	4.8	35.3-36.2	178-181
2.0 30 TDI	116	130	10.1	62.8-64.2	114-119
2.0 35 TDI	148	142	8.3	58.9-67.3	111-127
2.0 40 TDI quattro	198	155	6.8	48.7-51.4	145-152

A4 4dr saloon £34,565–£59,830		★★★★☆			
High quality and competent but leaves the dynamic finesse to its rivals. LxWxH 4726x1842x1427 Kerb weight 1320kg					
2.0 35 TFSI	148	140	8.6	40.9-46.3	141-155
2.0 40 TFSI	201	155	7.3	40.9-44.8	143-156
2.0 45 TFSI quattro	242	155	5.6	34.9-35.3	181-184
2.0 30 TDI	132	133	9.5	50.4-55.4	133-146
2.0 35 TDI	148	142	8.9	50.4-55.4	133-146
2.0 40 TDI quattro	187	146	7.4	50.4-54.3	137-148
3.0 S4 TDI	341	155	4.6	40.4-40.9	185-187

Power (bhp)	Top speed (mph)	0-60/0-125mph	Economy (mpg/urban)	CO ₂ (g/km)
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A4 Avant 5dr estate		£35,965-£87,795	★★★★☆	
Classy and demure estate lacks the dynamic sparkle of rivals.				
LxWxH 4725x1842x1434 Kerb weight 1370kg				
2.0 35 TFSI	148	137	9.2	39.8-44.8 143-162
2.0 40 TFSI	201	146	7.3	39.8-43.5 147-162
2.0 45 TFSI quattro	242	155	6.0	33.6-34.4 187-191
3.0 V6 TFSI RS4 Avant	448	155-180	4.1-3.9	28.1-28.2 220-226
2.0 30 TDI	132	131	9.8	49.6-54.3 137-150
2.0 35 TDI	148	132	9.2	49.6-54.3 137-150
2.0 40 TDI quattro	201	143-144	7.1	47.9-52.3 144-156
3.0 50 TDI Allroad quattro	282	155	5.3	38.2 181
3.0 S4 TDI quattro	342	155	4.7	39.2-39.8 181-193

A5 2dr coupé	£40,545-£91,750	★★★★☆			
Refreshed coupé gets a sharper look and a refreshed interior. Still mundane to drive. LxWxH 4673x1846x1371 Kerb weight 1390kg					
2.0 35 TFSI	148	140	8.9	41.5-45.6	141-154
2.0 40 TFSI	201	150	7.1	41.5-47.1	141-154
2.0 45 TFSI quattro	242	155	4.8	34.9-38.8	180-184
2.9 V6 TFSI RS5 quattro	448	174	3.9	29.1	220
2.0 35 TDI	163	162	8.2	51.4-55.4	133-144
2.0 40 TDI quattro	201	146	6.9	50.4-54.3	135-146
3.0 V6 S5 TDI quattro	339	155	4.6	39.2-40.4	184-188

A5 Sportback 5dr coupé		£40,545-£91,750	★★★★☆	
Refined, good-looking four-door coupé is sadly short on charm and finesse. LxWxH 4733x1843x1386 Kerb weight 1425kg				
2.0 35 TFSI	148	139	9.1	40.9-44.8 144-158
2.0 40 TFSI	201	150	7.2	40.9-44.8 143-158
2.0 45 TFSI quattro	242	155	5.6	34.4-35.3 183-187
2.9 V6 TFSI RS5 quattro	448	174	3.9	28.5-28.8 222-224
2.0 35 TDI	148	135	8.4	50.4-54.3 135-147
2.0 40 TDI quattro	201	146	7.6	49.6-54.3 137-149
3.0 S5 TDI quattro	345	155	4.6	39.8-40.4 183-187

A6 4dr saloon	£40,905-£81,340	★★★★☆			
Supremely well constructed but a bit soulless to drive. A smart office on wheels. LxWxH 4939x1886x1457 Kerb weight 1645kg					
2.0 40 TFSI	201	152	7.3	37.7-39.2	163-171
2.0 45 TFSI quattro	242	155	6.0	35.3-37.2	172-182
2.0 50 TFSIe quattro	299	155	6.2	217.3	31
3.0 55 TFSI quattro	335	155	5.1	32.8-34.9	184-196
2.0 40 TDI	201	152	8.1	47.9-51.4	145-155
2.0 40 TDI quattro	201	153	7.6	45.6-47.9	155-163
3.0 50 TDI quattro	282	155	5.5	38.7-40.4	183-191
3.0 S6 TDI quattro	344	155	5.0	36.2	203-205

A6 Avant 5dr estate		£43,055–£116,624	★★★★☆	
A capable and high-tech throwback that's a timely reminder of what Audi does best. LxWxH 4939x1886x1467 Kerb weight 1710kg				
2.0 40 TFSI	201	149	7.5	36.2-38.2 168-178
2.0 45 TFSI quattro	242	155	6.2	34-36.2 177-189
2.0 50 TFSIe quattro	294	155	6.2	217.3 31
4.0 RS6 quattro	596	155-174	3.6	21.9-22.6 283-294
2.0 40 TDI	201	149	8.3	45.6-49.6 150-162
2.0 40 TDI quattro	201	150	7.6	44.1-46.3 159-167
3.0 S6 TDI quattro	344	155	5.1	35.3 209

A7 Sportback 5dr coupé	£55,115–£133,705	★★★★☆		
Easy on the eye and to live with, but let down by stolid dynamics.				
LxWxH 4969x1908x1422 Kerb weight 1880kg				
2.0 45 TFSI quattro	242	155	6.2	35.3-36.2 177-183
2.0 50 TFSIe quattro	294	155	6.3	134.5-141.2 46-47
4.0 RS7 quattro	596	155-174	3.6	22.2-23.0 280-287
2.0 40 TDI	201	152	8.3	47.9-49.6 150-156
2.0 40 TDI quattro	201	155	7.0	45.6-47.1 158-163
3.0 S7 TDI quattro	344	155	5.1	35.3-35.8 205-208

A8 4dr saloon	£76,135-£118,830	★★★★☆		
Technical tour de force benefits from Audi's knack of making very good limousines. LxWxH 5172x1945x1473 Kerb weight 1920kg				
3.0 55 TFSI quattro	335	155	5.6	28.2-29.4 206-212
3.0 55 TFSIe quattro LWB	335	155	5.7	28.2-29.1 219-228
3.0 60 TFSIe quattro	449	155	4.9	100.9/113.0 57-64
3.0 50 TDI quattro	282	155	5.9	38.7-40.9 180-192
3.0 50 TDI quattro LWB	282	155	5.9	38.7-40.4 182-193

	Power (bhp)	Top speed (mph)	0-60/62mph (secs)	Economy (mpg/ltre/100)	CO ₂ (g/km)
R8 2dr coupé £132,805-£168,910 ★★★★☆					
Usable but no less involving or dramatic if it. V10 is deliciously brutal. LxWxH 4426x1940x1240 Kerb weight 1590kg					
5.2 V10 RWD	538	201	3.7	22.2	288
5.2 V10 quattro	567	201	3.4	21.9	294
5.2 V10 Performance q'tro	610	205	3.1	21.7	295-296

R8 Spyder 2dr open £141,495-£177,600 ★★★★☆					
Taking the roof off the R8 enhances the drama tenfold. LxWxH 4426x1940x1245 Kerb weight 1680kg					
5.2 V10 RWD	538	200	3.8	20.9	307
5.2 V10 quattro	567	200	3.5	20.5	313
5.2 V10 Performance q'tro	610	204	3.2	20.3	315

BAC					
Mono odr open £165,125 ★★★★☆					
An F-22 Raptor for the road, only significantly better built. LxWxH 3952x1836x1110 Kerb weight 580kg					
2.5 VVT	305	170	2.8	na	na

BENTLEY					
Continental GT 2dr coupé £178,820-£260,120 ★★★★☆					
Refined and improved in every area, making the Conti a superb grand tourer. LxWxH 4850x1966x1405 Kerb weight 2244kg					
4.0 V8	542	198	4.0	23.9	268
6.0 W12 Speed	626	207	3.6	20.8	308

Continental GTC 2dr open £196,420-£285,920 ★★★★☆					
Immensely capable and refined open-top cruiser with effortless performance. LxWxH 4850x2187x1399 Kerb weight 2414kg					
4.0 V8	542	198	4.1	23.3	275
6.0 W12 Speed	626	207	3.7	20.2	336

Flying Spur 4dr saloon £173,470-£244,520 ★★★★☆					
New from the ground up, with the looks and technology of a class winner. LxWxH 5316x1879x1483 Kerb weight 2437kg					
3.0 V6 Hybrid	536	177	4.3	na	na
4.0 V8	548	198	4.1	22.2	288
6.0 W12	632	207	3.8	19.1	337

Bentayga 5dr SUV £155,665-£197,420 ★★★★☆					
Crewes's first attempt at an SUV remains ahead of most luxury rivals. LxWxH 5140x1998x1742 Kerb weight 2505kg					
3.0 V6 Hybrid	448	158	5.5	83.1	82
4.0 V8	542	171	4.5	21.7	302

BMW					
1 Series 5dr hatch £27,245-£39,825 ★★★★☆					
May not drive like a traditional BMW but delivers on upmarket hatch values. LxWxH 4319x1799x1434 Kerb weight 1365kg					
118i	138	132	8.5	46.3-47.1	130-134
128ti	261	155	6.1	40.9	157
M135i xDrive	302	155	4.8	36.2	177
116d	114	124	10.1-10.3	60.1-62.8	119-123
118d	148	134	8.4-8.5	58.9-60.1	123-127
120d	187	144	7.3	55.4-57.6	129-133
120d xDrive	187	143	7.0	52.3-53.3	139-142

2 Series 2dr coupé £36,010-£47,515 ★★★★☆					
Takes everything positive about its predecessor and refines it further. LxWxH 4537x2068x1390 Kerb weight 1490kg					
220i	184	147	7.5	44.1	145
230i	242	155	5.9	42.8	151
M240i xDrive	374	155	4.3	34.4	186
220d	188	147	6.9	60.1	122

2 Series Gran Coupé 4dr saloon £28,705-£40,730 ★★★★☆					
Blends 1 Series platform with rakish looks, but lacks the coupé's driver appeal. LxWxH 4526x1800x1420 Kerb weight 1350kg					
218i	138	134	8.7	46.3-47.1	136-138
220i	178	148	7.1	46.3-47.1	136-139
M235i xDrive	302	155	4.9	37.2	172
218d	148	138	8.6	58.9-60.1	123-125
220d	188	148	7.5	56.5-57.6	129-131

2 Series Active Tourer 5dr hatch £31,285-£43,205 ★★★★☆					
Proves there's still a place for the MPV in this SUV-led world. LxWxH 4354x1800x1555 Kerb weight 1545kg					
220i	154	137	8.1	47.1-47.9	135-137
223i	201	150	7.0	45.6-46.3	138-140
225e xDrive	241	121	6.7	na	na
230e xDrive	321	127	5.5	na	na
218d	148	137	8.8	57.6-58.9	127-129

3 Series 4dr saloon £37,805-£80,970 ★★★★☆					
Latest 3 Series has a growth spurt, but size is no obstacle for an engaging drive. LxWxH 4709x1827x1442 Kerb weight 1450kg					
320i	181	146	7.1	44.1	144-146
320i xDrive	181	142	7.6	41.5-42.2	153-154
330i	254	155	5.8	40.9-42.8	150-156
330e	288	143	5.9	188.3-201.8	37-38
330e xDrive	288	143	5.9	na	na
M340i xDrive	369	155	4.4	34.9	185
M3 Competition	503	155	3.9	28.8	223
M3 xDrive Competition	503	155	3.5	28.2	228
318d	148	132	8.3-8.4	52.6-62.8	117-129
320d	187	146	6.8-7.1	56.5-60.1	124-131
320d xDrive	187	144	6.9	54.3-56.5	130-136
330d	263	155	5.5	47.1-49.6	150-156
330d xDrive	263	155	5.1	47.1	157-158
M340d xDrive	338	155	4.6	46.3	160

3 Series Touring 5dr estate £39,810-£83,470 ★★★★☆					
Towering everyday appeal. Arguably the best all-rounder sensible money can buy. LxWxH 4620x1811x1430 Kerb weight 1565kg					
320i	181	143	7.5	42.2	152-153
330i	254	155	5.9	39.2-40.9	156-163
330e	292	143	5.9	176.6-201.8	32-37
330e xDrive	292	140	5.9	156.9-176.6	37-42
M340i xDrive	371	155	4.5	33.6	191
318d	148	133	8.8	57.6-58.9	126-127
320d	188	142	7.1-7.9	54.3-57.6	115-121
320d xDrive	188	142	7.4	51.4-54.3	136-143
330d	263	140	5.6	45.6-47.1	158-163
330d xDrive	261	155	5.4	43.5-44.8	166-171
M340d xDrive	340	155	4.8	44.8	165
M3 xDrive Competition	503	155	3.6	na	235

4 Series 2dr coupé £41,800-£128,225 ★★★★☆					
A rounded, engaging and potent coupé let down only by its looks. LxWxH 4768x2081x1390 Kerb weight 1590kg					
420i	181	149	7.5	42.2-44.1	146-151
430i	254	155	5.8	40.4-42.2	153-159
M440i xDrive	369	155	4.5	36.7	175
M4 Competition	503	155	3.9	28.8	228



M4 xDrive Competiton	503	155	3.5	28.2	227
M4 CSL	543	191	3.7	28.5	224
420d	187	143	7.1	58.9-61.4	121-126
420d xDrive	187	148	7.4	55.4-57.6	129-135
M440d xDrive	335	155	4.6	47.9	154

4 Series Convertible 2dr open £47,155-£85,870 ★★★★☆					
Fabric-roofed grand tourer has just as much talent as its coupé sibling. LxWxH 4768x2081x1384 Kerb weight 1715kg					
420i	181	147	8.2	40.4-41.5	154-159
430i	242	155	6.2	38.7-40.4	160-165
M440i xDrive	371	155	4.9	35.3	182
M4 xDrive Competition	503	155	3.7	27.7	231
420d	188	147	7.6	55.4-57.6	129-134
430d	282	155	5.8	50.4-52.3	141-146
M440d xDrive	335	155	4.6	47.9	154

4 Series Gran Coupé 4dr coupé £42,960-£57,365 ★★★★☆					
The same impressive package we love from the 3 Series, with added style. LxWxH 4783x2073x1442 Kerb weight 1825kg					
420i	181	146	7.9	41.5	154
430i	242	155	6.2	39.8	160-161
M440i xDrive	371	155	4.7	35.3	182
420d	188	146	7.3	56.5	130
420d xDrive	188	145	7.6	53.3	138

I4 4dr saloon £53,480-£65,795 ★★★★☆					
Fast, refined and with lots of traditional appeal to convert sceptics. LxWxH 4783x1852x1448 Kerb weight 2215kg					
eDrive40	338	118	5.7	352-365	0
M50	542	140	3.9	318	0

5 Series 4dr saloon £41,480-£107,520 ★★★★☆					
The perfect compromise between the comfy E-Class and dynamic XF, and then some. LxWxH 4936x2126x1479 Kerb weight 1530kg					
520i	181	146	7.8	44.8-45.6	142-145
530e	288	146	5.9	117.7-128.4	32-43
530e xDrive	288	146	5.9	134-166	38-48
545e xDrive	394	155	3.8	128-134	49-51
M550i xDrive	528	155	3.8	25.9	247
M5 Competition	616	155	3.3	25.4	252
520d	187	147	7.5	57.6-58.9	126-129
520d xDrive	187	144	7.6	54.3-55.4	132-135
530d xDrive	261	155	5.4	51.4-52.3	143-145

5 Series Touring 5dr estate £44,085-£59,655 ★★★★☆					
The excellent 5 Series made in more practical form. The 520d is still the best. LxWxH 4942x2126x1498 Kerb weight 1630kg					
520i	181	139	8.2	40.4-42.2	152-160
530e	292	140	6.1	156.9-176.6	35-40
530e xDrive	292	140	6.1	134.5-156.9	42-47
540i xDrive	335	155	5.1	34.9-35.8	179-185
520d	187	147	7.8	52.3-55.4	134-142
520d xDrive	187	144	7.9	49.6-52.3	140-148
530d xDrive	261	155	5.6	46.3-47.9	160

7 Series 4dr saloon £102,305-£116,655 ★★★★☆					
New mild-hybrid flagship saloon is better in every way than its predecessor. LxWxH 5098x1902x1478 Kerb weight 1755kg					
750e xDrive	482	155	4.8	53.4	na
M760e xDrive	563	155	4.3	na	na

I7 4dr saloon £108,305-£134,555					
Tech-laden luxury saloon arrives as new flagship with class-leading comfort. LxWxH 5391x1950x1544 Kerb weight 2715kg					
xDrive60	526	149	4.7	na	na

8 Series 2dr coupé/2dr open £79,475-£133,020 ★★★★☆					
Has dynamism to spare but not quite the breadth of ability of the best sporting GTs. LxWxH 4843x1902x1341 Kerb weight 1830kg					
840i	335	155	5.0	33.2-33.6	193-194
M850i xDrive	523	155	3.7	24.8-25.2	255-260
M8 Competition	623	155	3.2-3.3	25.2-25.4	252-254

8 Series Gran Coupé 4dr saloon £76,975-£130,520 ★★★★☆					
Four-door grand tourer offers greater practicality than its two-door siblings. LxWxH 5072x1932x1397 Kerb weight 1800kg					
840i	335	155	5.2	33.2	194
M850i xDrive	523	155	3.9	24.6	260
M8 Competition	623	155	3.2	25.4	254

X1 5dr SUV £42,080-£47,785 ★★★★☆					
Pick of the premium bunch and very spacious, but expensive and not that small LxWxH 4500x1845x1642 Kerb weight 1655kg					
sDrive18i	138	127	9.7	42.8	149-150
sDrive20i	189	138	7.4	40.9	156-157
xDrive20i	189	na	7.7	38.2-38.7	166-167
xDrive23i	201	145	7.4	41.5	153
sDrive18d	148	126	8.9	55.4	133-134
xDrive23d	194	140	7.4	56.5	131

IX1 5dr SUV £52,255-£54,960					
Not the most engaging to drive, but a seriously comprehensive electric prospect. LxWxH 4450x1845x1642 Kerb weight 1655kg					
xDrive30	308	112	5.7	na	na

X2 5dr SUV £33,540-£49,150</

Stonic 5dr SUV £19,700-£23,750 ★★★★★☆					
Kia's first crossover is striking and reasonably good considering the value. LxWxH 4140x1760x1520 Kerb weight 1160kg					
1.0 T-GDI	116	115	9.9	46.3-47.1	137

Niro 5dr SUV £27,745-£39,025 ★★★★★☆					
Versatile and well-equipped family transport in a choice of hybrid and EV flavours. LxWxH 4365x1805x1545 Kerb weight 1500kg					
1.6 GDI Hybrid	137	101	11.1	58.9	110-120
1.6 GDI Hybrid PHEV	137	107	10.4	201.8	29
64kWh e-Niro	198	104	7.8	282	0

Soul EV 5dr hatch £32,845-£39,045 ★★★★★☆					
Electric-only hatch with looks that divide opinion but a competitive range. LxWxH 4220x1825x1605 Kerb weight 1757kg					
39kWh	132	97	9.9	171	0
64kWh	201	104	7.9	280	0

Sportage 5dr SUV £27,250-£44,550 ★★★★★☆					
Does refinement, handling precision, tech, space and alternative style well. LxWxH 4515x1865x1650 Kerb weight 1715kg					
1.6T GDI	148	117	9.9	41.5	154
1.6T GDI 48V	148	117	9.3	41.5	146
1.6T GDI 48V DCT AWD	148	117	9.4	40.4	158
1.6T GDI PHEV	257	119	7.9	na	na
1.6T GDI HEV	226	120	7.7	49.6	129
1.6T GDI HEV AWD	226	120	8.0	44.1	146
1.6 CRDI	113	108	11.7	53.3	138
1.6 CRDI 48V	134	112	11.0	54.3	135

EV6 5dr SUV £44,195-£61,595 ★★★★★☆					
Swift, spacious and swift enough to become the pick of the EV crossover bunch. LxWxH 4680x1880x1550 Kerb weight 2090kg					
77.4kWh	226	114	7.3	328	0
77.4kWh AWD	321	116	6.2	300	0

Sorento 5dr SUV £50,995-£56,995 ★★★★★☆					
Lacks polish, but its abundant utility appeal and value shine through. LxWxH 4810x1900x1695 Kerb weight 2006kg					
1.6 T-GDI HEV	226	119	8.7	40.9	158-166
1.6 T-GDI PHEV	261	119	8.4	176.6	38

KTM					
X-Bow 0dr open £57,345-£70,717 ★★★★★☆					
Eccentric looks and sharp handling but expensive. LxWxH 3738x1915x1202 Kerb weight 847kg					
2.0 R	290	143	3.9	na	na
2.0 GT	280	143	4.1	na	na

LAMBORGHINI					
Huracán 2dr coupé/open £170,598-£267,633 ★★★★★☆					
Junior Lambo mixes usability and drama skilfully, in both coupé and Spyder forms. LxWxH 4459x1924x1165 Kerb weight 1389kg					
5.2 V10 Evo RWD	608	202	3.3	20.5	330-335
5.2 V10 Evo	631	201	2.9	20.3	332-338
5.2 V10 STO	631	202	3.0	20.3	331

Aventador 2dr coupé/open £274,226-£439,921 ★★★★★☆					
Big, hairy V12 has astonishing visuals and performance. Handling could be sweeter. LxWxH 4797x2030x1136 Kerb weight 1575kg					
6.5 V12 S	730	217	2.9	15.4	499
6.5 V12 SVJ	759	217	2.8	15.8	486
6.5 Ultimae	778	221	2.8	13.0	442

Urus 5dr SUV £177,417-£197,270 ★★★★★☆					
Lambo's second SUV is more alluring and aims to use the V8's power better. LxWxH 5112x2016x1638 Kerb weight 2200kg					
4.0 V8	631	189	3.6	22.2	325

LAND ROVER					
Defender 90 5dr SUV £60,705-£113,505 ★★★★★☆					
Breadth of capability matches that of the five-door, with even more kerb appeal. LxWxH 5018x2008x1967 Kerb weight 2190kg					
3.0 P400	398	119	6.0	25.6	256
5.0 P525	518	119	5.2	19.3-19.5	327-330
3.0 D250	246	117	8.0	32.8	226-227
3.0 D300	296	119	6.7	32.7	226

Defender 110 5dr SUV £62,405-£116,580 ★★★★★☆					
Promises, and delivers, unrivalled off-road performance with on-road niceties. LxWxH 5018x2008x1967 Kerb weight 2209kg					
3.0 P400	398	119	6.1	24.6-24.7	260-261
2.0 P400e	398	119	5.6	85.6	77
5.0 P525	518	119	5.2	19.1	334
3.0 D250	246	117	8.3	32.2	230
3.0 D300	296	119	7.0	32.2	230

Defender 130 5dr SUV £73,895-£100,645 ★★★★★☆					
Stretched version of cut off-roader packs greater practicality and retains polish. LxWxH 5358x2008x1970 Kerb weight 2589kg					
3.0 P300	295	119	8.0	24.8	258
3.0 P400	394	119	6.6	24.5	261
3.0 D300	296	119	7.5	32.1	232

Range Rover Evoque 5dr SUV £34,010-£58,015 ★★★★★☆					
Refined, luxurious baby Range Rover has matured for its second generation. LxWxH 4371x1996x1649 Kerb weight 1891kg					
2.0 P200	198	134	8.6	31.7	201
2.0 P250	248	143	7.6	31.6	201
2.0 P300	298	150	6.4	31.3	203
1.5 P300e	298	132	6.4	166.2-193.5	33-38
2.0 D165	163	120	9.8-10.1	43.4-45.9	160-171
2.0 D200	201	120	8.5	43.8	169

Range Rover Velar 5dr SUV £46,565-£73,815 ★★★★★☆					
The most car-like Landie ever doesn't disappoint. Expensive, though. LxWxH 4804x1930x1685 Kerb weight 1829kg					
2.0 P250	248	135	7.5	27.8-29.2	217-229
3.0 P400	394	155	5.5	27.3-28.0	227-230
2.0 P400e	398	149	5.4	na	na
2.0 D200	201	130	8.2	41.6	168-178
3.0 D300 MHEV	296	143	6.5	36.1-37.2	199-205

Range Rover Sport 5dr SUV £80,325-£116,190 ★★★★★☆					
Bigger and better, a cut-price Range Rover rather than a jumped-up Discovery. LxWxH 4850x2073x1780 Kerb weight 2111kg					
3.0 P400	398	140	6.2	27.4	234
3.0 P440e	438	140	5.8	na	na
5.0 V8 P575 SVR	572	176	4.5	19.6	331
3.0 D300	298	130	7.3	34.1	220-247
3.0 D350	348	140	6.9	29.8	249

Range Rover 5dr SUV £99,375-£171,575 ★★★★★☆					
Seminal luxury SUV's new generation covers even more bases than before. LxWxH 5052x2047x1870 Kerb weight 2379kg					



3.0 P400	398	150	5.8-6.1	28.5-29.3	218-225
3.0 P440e	438	140	6.0	321.9	20-21
3.0 P510e	508	150	5.5	318.4	20-21
4.4 P530 V8	527	155	4.6-4.8	24.0-24.2	264-267
3.0 D300	289	135	6.9	35.8-36.7	204-207
3.0 D350	348	145	6.1-6.3	35.1-36.5	203-211

Discovery Sport 5dr SUV £34,480-£54,865 ★★★★★☆					
Seven seats, at home on road and off road, plus new-found desirability. LxWxH 4597x2069x1727 Kerb weight 1732kg					
2.0 P250	247	140	7.8	30.1	211
2.0 P290	288	144	7.4	29.7	214
1.5 P300e	298	130	6.6	143.4-158.6	40-44
2.0 D165	162	112	10.2	41.5	179
2.0 D200	201	117	8.6	41.5	179

Discovery 5dr SUV £60,880-£76,085 ★★★★★☆					
The country bumpkin given elocation lessons without losing its rugged capabilities. LxWxH 4956x2073x1888 Kerb weight 2115kg					
3.0 P360	355	130	6.5	26.0-26.4	241-245
3.0 D250	246	120	8.1	33.4-33.7	220-222
3.0 D300	296	130	6.8	33.2-33.5	221-223

LEXUS					
ES 4dr saloon £38,765-£54,625 ★★★★★☆					
Gatecrashes the German-controlled saloon market in a way the GS could never manage. LxWxH 4975x1865x1445 Kerb weight 1680kg					
2.5 VVT-1ES 300h	218	112	8.9	53.2	119

LS 4dr saloon £85,475-£111,980 ★★★★★☆					
Luxury saloon gets more tech and opulence but is let down by its hybrid powertrain. LxWxH 5235x1900x1460 Kerb weight 2270kg					
3.5 V6 VVT-1LS 500h	348	155	5.4	30.7-36.6	175-208

RC F 2dr coupé £68,620-£84,120 ★★★★★☆					
An also-ran, but the V8 RC F packs plenty of character and handles well enough. LxWxH 4695x1840x1395 Kerb weight 1736kg					
5.0 V8	470	168	4.5	23.9	268

LC 2dr coupé/open £88,920-£104,920 ★★★★★☆					
Superb-looking coupé shows flickers of what made the LFA great. LxWxH 4770x1920x1345 Kerb weight 1935kg					
5.0 V8 LC 500	457	168	4.7	24.3	262
3.5 V6 LC 500h	354	155	5.0	34.8	184

UX 5dr SUV £25,960-£46,850 ★★★★★☆					
Refreshingly different premium SUV is a credible, if not class-leading, alternative. LxWxH 4495x1840x1520 Kerb weight 1620kg					
2.0 UX 250h	181	110	8.5	50.4	126
2.0 UX 250h E4	181	110	8.7	47.0	136
UX 300e 150kWh	201	100	7.5	195	0

NX 5dr SUV £41,210-£60,950 ★★★★★☆					
PHEV option and welcome cabin overhaul sustain the allure of the firm's best-seller. LxWxH 4660x1865x1640 Kerb weight 1990kg					
2.5 NX 350h	242	124	7.7-8.7	44.1	145
2.5 NX 450h+ PHEV	306	124	6.3	256-313	20-26

RX 5dr SUV £57,505-£68,065 ★★★★★☆					
Low flexibility, but hybrid powertrain makes a degree of economic sense. LxWxH 4890x1895x1690 Kerb weight 2100kg					
3.5 V6 RX 450h	308	124	7.7	34.4	185

LOTUS					
Emira 2dr coupé £79,515-£80,285 ★★★★★☆					
Charged with replacing the entire outgoing Lotus range. We've yet to test it. LxWxH 4413x1895x1226 Kerb weight 1405kg					
2.0 360	360	176	4.2	na	195
3.0 400	400	180	4.3	29.1	243

Eletr 5dr SUV £90,805-£121,305 ★★★★★☆					
Urus-sized, tech-rich, high-performance SUV marks firm's shift to high-tech EV maker. LxWxH na Kerb weight na					
112kWh	603	na	na	373	0
112kWh R	905	na	na	304	0

MASERATI </



	Power (bhp)	Top speed (mph)	0-60/132mph (secs/min)	Economy (mpg/ltre/100km)	CO ₂ (g/km)
3.0 E300d 4Matic	242	155	6.4	42.2-47.9	166-167
2.9 E400d 4Matic	325	155	5.3	na	189

E-Class Cabriolet 2dr open £57,095-£80,735 ★★★★★					
Refined and sophisticated four-seater in the same mould as the S-Class Cabriolet. LxWxH 4846x1860x1429 Kerb weight 1780kg					
2.0 E300	237	155	6.6	30.0	189-190
3.0 E450 4Matic	362	155	5.8	28.8-30.7	208
3.0 AMG E53 4Matic	429	155	4.5	29.7-30.7	217-219
2.0 E220d	189	147	7.8	42.8-48.7	162-163
2.0 E300d	242	155	6.6	40.9-46.3	172
2.9 E400d 4Matic	325	155	5.4	na	193

CLS 4dr saloon £71,345-£82,445 ★★★★★					
Retains the sleek coupé style and has more tech - without losing its allure. LxWxH 4996x1896x1436 Kerb weight 1935kg					
3.0 V6 AMG CLS 53 4Matic+	429	155	4.5	29.7	216
3.0 CLS 400d 4Matic	325	155	5.0	38.7	191

S-Class 4dr saloon £82,965-£211,460 ★★★★★					
Bristling with technology, luxury and performance. Sets new class standards. LxWxH 5125x1899x1493 Kerb weight 1990kg					
3.0 S500	440	155	4.9	29.7-35.3	181-201
3.0 S580e	510	155	5.2	35.31	19
3.0 S580 Maybach	503	144	4.8	26.2	253-265
6.0 V12 S680 Maybach	612	155	4.5	19.8	325
2.9 S350d	286	155	6.4	39.8-42.8	173-190
2.9 S400d	328	155	5.4	38.2-38.7	192-196

EQS 5dr saloon £102,160-£166,155 ★★★★★					
Luxurious in every respect and a tantalising showcase for the future. LxWxH 5032x1899x1411 Kerb weight 2480kg					
108kW 450+ 4Matic	325	130	6.2	412-453	0
AMG EQS 53 4Matic+	649	155	3.8	377	0

AMG GT 4-Door Coupé 4dr saloon £141,855-£173,640 ★★★★★					
Four-door, four-wheel-drive GT is confusing to contemplate but impressive to drive. LxWxH 5054x1953x1447 Kerb weight 2100kg					
4.0 V8 GT63 S 4Matic+	630	196	3.2	21.4-22.1	294-298

GLA 5dr SUV £36,090-£67,305 ★★★★★					
Not the most practical crossover but good looking and very decent to drive. LxWxH 4417x1804x1494 Kerb weight 1395kg					
1.6 GLA 180	120	124	8.7-9.0	35.3-40.4	151-155
1.6 GLA 200	152	134	8.1-8.4	34.9-39.8	151-155
1.3 GLA 250e	135	137	7.1	201.8	31
2.0 GLA 250 4Matic	204	143	6.6	32.5-35.8	172-174
2.0 AMG GLA 35 4Matic	302	155	5.2	32.5	186-198
2.0 AMG GLA 45 S 4Matic+	415	155	4.3	28.8	215-224
2.0 GLA 200d	150	127	8.6-8.9	52.3	121
2.0 GLA 220d	188	136	7.3	49.6	141-149

EQA 5dr SUV £47,510-£56,010 ★★★★★					
A competent but entirely average electric SUV. For the money, we expect better. LxWxH 4463x1834x1624 Kerb weight 1965kg					
67kWh 250	188	99	8.5	255-264	0
67kWh 300 4Matic	228	99	7.7	260-268	0
67kWh 350 4Matic	292	99	6.0	268	0

GLB 5dr SUV £40,565-£51,595 ★★★★★					
Boxy SUV mixes rough-and-tumble styling cues and seven-seat versatility. LxWxH 4634x1834x1659 Kerb weight 1555kg					
1.3 GLB 200	160	129	9.1	40.4	160-165
2.0 AMG GLB 35	302	155	5.2	32.5	198
2.0 GLB 200d	148	127	9.0	47.9	149-156
2.0 GLB 220d	188	135	7.6	47.9	156-158

EQB 5dr SUV £53,610-£62,710 ★★★★★					
Part-time third row still a rarity in premium electric cars. Otherwise unremarkable. LxWxH 4463x1834x1624 Kerb weight 2030kg					
67kWh 300	228	99	7.7	257	0
67kWh 350	292	99	6.0	257	0

GLC 5dr SUV £45,240-£94,785 ★★★★★					
Not exactly exciting to drive, but does luxury and refinement better than most. LxWxH 4656x1890x1639 Kerb weight 1735kg					
2.0 GLC 300 4Matic	255	149	6.2	34.4	187-198
2.0 GLC 300e 4Matic	320	143	5.7	122.8	53
3.0 V6 AMG GLC 43 4Matic	388	155	4.9	27.4	233-245
4.0 V8 AMG GLC 63 S 4Matic+	502	155	3.8	22.7	294-296
2.0 GLC 220d 4Matic	191	134	7.9	47.9	154-167
2.0 GLC 300d 4Matic	242	144	6.5	42.8	178-179
2.0 GLC 300de 4Matic	302	143	6.2	148.7	50

GLC Coupé 5dr SUV £51,590-£97,960 ★★★★★					
A coupé-shaped SUV destined to be outrun by the X4 - unless you're in an AMG. LxWxH 4732x1890x1602 Kerb weight 1785kg					
2.0 GLC 300 4Matic	255	149	6.3	32.8	195-202
2.0 GLC 300e 4Matic	320	143	5.7	104.6	52-54
3.0 V6 AMG GLC 43 4Matic	388	155	4.9	27.7	232-242
4.0 V8 AMG GLC 63 S 4Matic+	502	155	3.8	22.1	290-291
2.0 GLC 220d 4Matic	191	135	7.9	44.1	167-173
2.0 GLC 300d 4Matic	242	145	6.6	40.9	182-184
2.0 GLC 300de 4Matic	302	143	6.2	134.5	55

EQC 5dr SUV £70,035-£78,925 ★★★★★					
Brisk, tidy-handling electric SUV has everything needed to do well on UK roads. LxWxH 4762x1884x1624 Kerb weight 2495kg					
80kWh 400 4Matic	408	112	5.1	244-255	0

GLE 5dr SUV £70,055-£119,930 ★★★★★					
The ML replacement isn't inspiring to drive but does come with a classy interior. LxWxH 4819x2141x1796 Kerb weight 2165kg					
2.9 GLE 450 4Matic	362	155	5.7	32.5	229
2.0 GLE 300d 4Matic	242	140	7.2	39.2	198-207
2.9 GLE 350d 4Matic	268	143	6.6	36.2	206-214
2.0 GLE 350de 4Matic	317	130	6.8	256.8	29
2.9 GLE 400d 4Matic	328	152	5.7	35.3	220
3.0 V6 AMG GLE 53 4Matic+	432	155	5.3	26.7	246-248
4.0 V8 AMG GLE 63 S 4Matic+	603	155	3.8	na	281

GLE Coupé 5dr SUV £76,080-£129,205 ★★★★★					
May not be your idea of a desirable luxury car, but it's certainly an effective one. LxWxH 4946x2014x1716 Kerb weight 2295kg					
3.0 AMG GLE 53 4Matic	432	155	5.3	25.7	244
4.0 AMG GLE 63 S 4Matic	603	174	3.8	na	280
2.0 GLE 350de 4Matic	320	130	6.9	313.9	23-24
2.9 GLE 400d 4Matic	327	149	5.7	33.6	219

GLS 5dr SUV £85,800-£176,505 ★★★★★					
The replacement for the massive GL can still seat seven in comfort. LxWxH 5216x2030x1823 Kerb weight 2415kg					
3.0 GLS 400d 4Matic	327	148	6.3	32.8	227
4.0 GLS 600 Maybach	549	155	4.9	21.4	304
4.0 AMG GLS63	625	174	4.2	23.7	273

G-Class 5dr SUV £123,500-£182,200 ★★★★★					
Massively expensive and compromised, but with character in abundance. LxWxH 4866x1984x1969 Kerb weight 2550kg					
3.0 400d 4Matic	325	130	6.4	25.7	281-282
4.0 V8 AMG G63 4Matic	578	137	4.5	18.6-18.8	373

AMG GT 2dr coupé/open £108,390-£377,120 ★★★★★					
Million-dollar looks and a railgun V8, but extremely firm chassis affects its usability. LxWxH 4544x1939x1287 Kerb weight 1615kg					
4.0 V8 GT	522	193-194	3.7-3.8	21.9-22.1	289-290
4.0 V8 GT R	577	198	3.6	22.1	289
4.0 V8 GT Black Series	718	202	3.2	22.1	292

MG					
3 5dr hatch £12,845-£14,345 ★★★★★					
Neatly tuned and nice sporty styling. Breaks the mould for budget superminis. LxWxH 4018x1729x1507 Kerb weight 1125kg					
1.5 VTI-Tech	104	108	10.9	42.3	152

5 SW EV 5dr estate £29,695-£31,945 ★★★★★					
Segment-first electric estate could be all the real-world EV you need. LxWxH 4544x1729x1509 Kerb weight 1532kg					
61kWh	154	115	7.7	250	0

ZS 5dr SUV £16,995-£34,495 ★★★★★					
Much improved on previous MGs, but still lacks the sophistication of its closest rivals. LxWxH 4314x1809x1611 Kerb weight 1190kg					
1.5 VTI-Tech	104	109	10.9	41.5	155
1.0T GDI	109	112	12.4	38.6	166
45kWh EV	143	87	8.5	163	0
73kWh EV	156	108	8.4	273	0

HS 5dr SUV £22,625-£33,595 ★★★★★					
Goes big on metal for the money but covers its budget roots with mixed success. LxWxH 4574x1876x1664 Kerb weight 1489kg					
1.5 T-GDI	162	118	9.9	36.2-37.2	168
1.5 T-GDI PHEV	254	118	7.1	155.8	43

MINI					
3dr Hatch 3dr hatch £22,565-£35,545 ★★★★★					
Three-pot engines and cleverly designed interior make the Mini a superb choice. LxWxH 3821x1727x1414 Kerb weight 1190kg					
1.5 One	101	121	10.1-10.2	49.6	130
1.5 Cooper	134	130	7.8-7.9	48.7-49.6	130-132
2.0 Cooper S	189	145-146	6.7-6.8	44.1	145
2.0 John Cooper Works	227	152	6.1-6.3	39.8	160

Electric 3dr hatch £31,000-£35,050 ★★★★★					
Won't break records on range or usability, but has plenty of zip and driver appeal. LxWxH 3850x1727x1414 Kerb weight 1440kg					
33kWh	180	93	7.3	144	0

Convertible 2dr open £25,465-£38,145 ★★★★★					
A fun open-top car but compromised on practicality and dynamics. LxWxH 3821x1727x1415 Kerb weight 1280kg					
1.5 Cooper	134	128	8.8	46.3	138-139
2.0 Cooper S	175	143	7.2	42.2	151
2.0 John Cooper Works	227	150	6.6	39.2	165

5dr Hatch 5dr hatch £23,225-£31,760 ★★★★★					
Mini charm in a more usable package, but still not as practical as rivals. LxWxH 3982x1727x1425 Kerb weight 1240kg					
1.5 One	101	119	10.6	49.6	130
1.5 Cooper	134	129	8.4	48.7-49.6	131-132
2.0 Cooper S	175	146	6.9	44.1-45.6	141-146

Clubman 5dr hatch £27,015-£39,945 ★★★★★					
Cheery and alternative Mini 'six-door' takes the brand into new territory. LxWxH 4253x1800x1441 Kerb weight 1375kg					
1.5 Cooper	134	128	9.2	47.1	136-137
2.0 Cooper S	175	142	7.3	42.2	152-153
2.0 John Cooper Works All4	302	155	4.9	38.2	169

Countryman 5dr hatch £28,815-£42,675 ★★★★★					
Bigger than before, but still more funky than useful. Still not all that pretty, either. LxWxH 4299x2005x1557 Kerb weight 1440kg					
1.5 Cooper	136	124	9.7	44.8	143
1.5 Cooper All4	136	122	10.3	40.9	157-158
1.5 Cooper S E All4 PHEV	217	122	6.8	156.9	41
2.0 Cooper S	192	140	7.5-7.6	42.2-42.8	151-152
2.0 Cooper S All4	192	138	7.6	40.4	158-159
2.0 John Cooper Works All4	302	155	5.1	37.2	174

MORGAN					
Plus Four 2dr open £63,635 ★★★★★					
Morgan's four-cylinder lifeblood model gets 21st-century underpinnings. LxWxH 3830x1500x1250 Kerb weight 1013kg					
2.0	255	149	5.1	38.8	165

Plus Six 2dr open £82,995 ★★★★★					
Feels like progress in lots of ways, but not yet the driver's car it might be. LxWxH 3890x1756x1220 Kerb weight 1075kg					
3.0	335	166	4.2	38.2	180

NISSAN					
Micra 5dr hatch £16,685-£19,765 ★★★★★					
Refreshed look and better handling makes it an enticing choice. Has its flaws, though. LxWxH 3991x1743x1455 Kerb weight 1490kg					
1.0 IG-T92	91	111	11.8	50.4	123-123

	Power (bhp)	Top speed (mph)	0-60/132mph (secs)	Economy (mpg/urban)	CO ₂ (g/km)
RADICAL					
Rapture odr open	£110,000	★★★★☆	★★★★☆		
Not as well mannered as some lightweights but spectacular in its track-day element. LxWxH 4100x1790x1130 Kerb weight 765kg					
2.2 Turbo	360	165	3.1	na	na

RXC GT 2dr open	£145,000	★★★★☆	★★★★☆		
Designed for pounding around a track; out of its element on the road. LxWxH 4300x1960x1127 Kerb weight 1125kg					
3.5 V6 400	400	179	2.8	na	na
3.5 V6 650	650	180	2.7	na	na

RENAULT					
Clio 5dr hatch	£18,895–£23,995	★★★★☆	★★★★☆		
Plusher, smoother and much more mature. A car of substance as well as style. LxWxH 4047x1728x1440 Kerb weight 1148kg					
1.0 Tce 90	88	112	12.2	54.4	117
1.6 E-Tech Hybrid	138	112	9.3	65.7	96

ZOE 5dr hatch	£29,995–£31,995	★★★★☆	★★★★☆		
A far more practical zero-emission solution. Attractive price, too. LxWxH 4084x1730x1502 Kerb weight 1470kg					
50kWh R135	132	87	9.5	232	0

Captur 5dr SUV	£22,295–£33,895	★★★★☆	★★★★☆		
Jacked-up Clio is among the better downsized options. Stylish and fluent-riding. LxWxH 4122x1778x1566 Kerb weight 1184kg					
1.0 Tce 90	89	104	14	47.9	133-134
1.6 E-Tech Hybrid	140	106	10.6	56.5	113-114
1.6 E-Tech PHEV	156	107	10.1	217.3	30-33

Kadjar 5dr SUV	£26,295–£27,895	★★★★☆	★★★★☆		
Fine value, practical, decent to drive and good-looking, but the Qashqai is classier. LxWxH 4449x1836x1607 Kerb weight 1306kg					
1.3 Tce 140	138	124	9.8	45.6	143-147

Arkana 5dr SUV	£26,795–£32,295	★★★★☆	★★★★☆		
Showy styling clothes an eminently sensible but unspectacular car. LxWxH 4568x1820x1576 Kerb weight 1435kg					
1.3 Tce Mild Hybrid 140	138	127	9.8	48.7	132
1.6 E-Tech Hybrid 145	143	107	10.8	58.9	108

Mégane E-Tech Electric 5dr SUV	£36,995–£40,995	★★★★☆	★★★★☆		
More fun than most EVs while also efficient, comfortable and tech-savvy. LxWxH 4200x1860x1505 Kerb weight 1708kg					
EV60 160kW 60kWh	215	99	7.5	280	0

RIMAC					
Nevera 2dr coupé	£2,000,000	★★★★☆	★★★★☆		
Electric hypercar from Croatian specialist is sibling of fantastic Pininfarina Battista. LxWxH 4750x1986x1208 Kerb weight 2150kg					
1427kW 120kWh	1914	256	2.0	340	0

ROLLS-ROYCE					
Wraith 2dr coupé	£282,220–£324,220	★★★★☆	★★★★☆		
An intimate and involving Rolls. Not as grand as some, but other traits make it great. LxWxH 5285x1947x1507 Kerb weight 2360kg					
6.6 V12	624	155	4.6	18.5-18.6	347-348

Dawn 2dr open	£305,620–£347,620	★★★★☆	★★★★☆		
Essentially as Wraith, except with a detuned engine and in elegant convertible form. LxWxH 5295x1947x1502 Kerb weight 2560kg					
6.6 V12	563	155	5.0	16.8-17.4	367-380

Ghost 4dr saloon	£275,020–£320,020	★★★★☆	★★★★☆		
'Affordable' Rolls is a more driver-focused car than the Phantom. Still hugely special. LxWxH 5399x1948x1550 Kerb weight 2360kg					
6.6 V12	563	155	4.9-5.0	18.5-18.6	347-348

Phantom 4dr saloon	£378,820–£450,820	★★★★☆	★★★★☆		
Phantom takes opulent luxury to a whole new level. LxWxH 5762x2018x1646 Kerb weight 2560kg					
6.75 V12	563	155	5.1-5.2	18.6-18.8	341-344

Cullinan 4dr SUV	£303,220–£347,020	★★★★☆	★★★★☆		
Big, bold new 4x4 begins the next era for the brand, with a model that convinces. LxWxH 5347x2164x1835 Kerb weight 2730kg					
6.75 V12	563	155	5.2	17.3-18.1	355-370

SEAT					
Ibiza 5dr hatch	£17,955–£22,100	★★★★☆	★★★★☆		
Reinvigorated Ibiza is more mature and takes the class honours from the Fiesta. LxWxH 4059x1780x1444 Kerb weight 1091kg					
1.0 MPI 80	79	106	15.3	50.4-52.3	122-128
1.0 TSI 95	93	113	10.9	52.3	124-125
1.0 TSI 110	109	121	10.3	51.4	123-124

Leon 5dr hatch	£22,515–£32,790	★★★★☆	★★★★☆		
A creditable effort and a notable improvement in form, with plenty of niche appeal. LxWxH 4282x1816x1459 Kerb weight 1202kg					
1.0 TSI 110	108	122	10.8	51.4-52.3	123-126
1.0 eTSI	108	119	10.6	50.4-51.4	124-129
1.5 TSI Evo 130	128	129	9.4	49.6-51.4	124-128
1.5 TSI Evo 150	148	135	8.7	48.7	133
2.0 TSI Evo 190	188	144	7.2	42.2	131-154
1.4 eHybrid PHEV	201	137	7.5	235.4	26-28
2.0 TDI 150	113	124	8.9	64.2-65.7	113-115

Leon Estate 5dr estate	£23,500–£35,445	★★★★☆	★★★★☆		
Good-looking and responsive hatchback-turned-estate. LxWxH 4549x1816x1454 Kerb weight 1236kg					
1.0 TSI 100	108	124	11.2	49.6-51.4	126-129
1.0 eTSI	108	124	11	49.6	130
1.5 TSI Evo 130	128	130	9.7	49.6-51.4	125-128
1.5 TSI Evo 150	148	135	9	47.9-48.7	132-133
2.0 TSI Evo	188	145	7.4	42.2	151-152
1.4 eHybrid PHEV	201	137	7.5	235.4	26-28
2.0 TDI 150	113	124	9.2	64.2-65.7	114-116

Arona 5dr SUV	£20,960–£26,870	★★★★☆	★★★★☆		
Seat's second SUV doesn't disappoint, with it taking charge of the class dynamically. LxWxH 4138x1780x1543 Kerb weight 1165kg					
1.0 TSI 95	93	107	11.2	51.4	124
1.0 TSI 115	113	113	9.8-10.0	47.9-53.3	121-134
1.5 TSI Evo 150	148	127	8.3	44.8-45.6	140-143

Ateca 5dr SUV	£26,395–£38,270	★★★★☆	★★★★☆		
Seat's first SUV is very good. So good, in fact, it's a Qashqai beater. LxWxH 4363x1841x1601 Kerb weight 1280kg					
1.0 TSI 110	108	112	11.3	44.1-46.3	139-146
1.5 TSI Evo 150	148	124	9	42.2-43.5	149-152
2.0 TSI 190	188	133	7.1	34.9-35.3	181-183
2.0 TDI 116	114	115	10.9	54.3-55.4	135-137
2.0 TDI 150	148	126	9.3	55.4-58.9	141-166
2.0 TDI 150 4Drive	148	122	8.7	47.1-48.7	141-166



Tarraco 5dr SUV	£32,255–£44,170	★★★★☆	★★★★☆		
Seat's largest SUV brings a hint of youthful exuberance to a practical category. LxWxH 4735x1839x1674 Kerb weight 1845kg					
1.5 TSI Evo 150	148	124	9.9	38.7-41.5	155-166
2.0 TSI 4Drive 190	188	130	7.8	31.0-31.7	201-207
2.0 TSI 245	242	142	6.3	32.1-32.8	195-200
2.0 TDI 150	148	124	10.2	49.6-52.3	144-150
2.0 TDI 200 4Drive	197	130	7.8	41.5-42.8	172-178

SKODA					
Fabia 5dr hatch	£17,990–£21,125	★★★★☆	★★★★☆		
Strong ergonomics and fine road manners – if you buy one of the more powerful models. LxWxH 4108x1780x1459 Kerb weight 1119kg					
1.0 MPI 80	78	111	15.6	55.4	116
1.0 TSI	93	121	10.7	55.4	115-116
1.0 TSI 110	109	127	9.9	57.6	113-127

Scala 5dr hatch	£20,120–£26,430	★★★★☆	★★★★☆		
Undercuts rivals on price and ushers in a sharp new design language for Skoda. LxWxH 4362x1793x1471 Kerb weight 1381kg					
1.0 TSI 95	94	118	10.9	53.3	119-120
1.0 TSI 110	108	123	10.1	51.4-53.3	120-124
1.5 TSI 150	148	137	8.1	50.4-51.4	125-128

Octavia 5dr hatch	£23,650–£37,055	★★★★☆	★★★★☆		
Does comfort and practicality like no other. Good, frugal engines too. LxWxH 4689x1829x1470 Kerb weight 1225kg					
1.0 TSI 110	113	129	10.8	54.3-56.5	115-117
1.5 TSI 150	148	143	8.5	52.3-53.3	121-123
2.0 TSI vRS	242	155	6.8	40.9	157
2.0 TDI 116	114	131	10.2	68.9	109
2.0 TDI 150	148	143	8.7	64.2-67.3	109-115
2.0 TDI 200 vRS	197	154	7.4	56.5	130
2.0 TDI 200 vRS 4x4	197	150	6.8	51.4	145

Octavia Estate 5dr estate	£24,630–£38,295	★★★★☆	★★★★☆		
Class-leading amount of space and practicality. Comfortable, too. LxWxH 4667x1814x1465 Kerb weight 1247kg					
1.0 TSI 110	113	125	11	53.3-54.3	118-119
1.5 TSI 150	148	139	8.6	50.4-52.3	123-126
2.0 TSI vRS	242	155	6.8	40.4	159
2.0 TDI 116	114	128	10.3	67.3	111
2.0 TDI 150	148	139	8.6	62.8-65.7	112-118
2.0 TDI 200 vRS	197	152	7.5	55.4	132
2.0 TDI 200 vRS 4x4	197	147	7.1	50.4	147

Superb 5dr hatch	£30,255–£44,140	★★★★☆	★★★★☆		
Another great Czech value option that's big on quality and space if not on price. LxWxH 4869x1864x1469 Kerb weight 1340kg					
1.5 TSI 150	148	137	9.2	40.4-44.8	142-157
2.0 TSI 190	188	148	7.7	38.2-39.2	162-168
2.0 TSI 280 4x4	276	155	5.3	32.2-34.0	188-193
1.4 iV PHEV	215	138	7.4	148.7-188.3	33-42
2.0 TDI 150	148	138	9.1	54.3-58.9	125-136
2.0 TDI 200	197	151	7.9	51.4-53.3	140-145
2.0 TDI 200 4x4	197	148	7.3	47.9	154

Superb Estate 5dr estate	£31,505–£42,985	★★★★☆	★★★★☆		
Even more commendable than above, primarily thanks to its enormous boot. LxWxH 4856x1864x1477 Kerb weight 1365kg					
1.5 TSI 150	148	132	9.3	40.9-45.6	141-157
2.0 TSI 190	188	143	7.8	39.8-40.9	162-168
2.0 TSI 280 4x4	276	155	5.3	32.2-34.0	188-194
1.4 iV PHEV	215	140	7.5	148.7-188.3	33-42
2.0 TDI 150	148	133	9.2	53.3-57.7	129-140
2.0 TDI 200	197	145	8	49.6-51.4	140-144
2.0 TDI 200 4x4	197	142	7.4	47.9	157

Kamiq 5dr SUV	£22,040–£27,625	★★★★☆	★★★★☆		
Skoda's supermini platform has birthed a practical but predictable compact crossover. LxWxH 4241x1793x1553 Kerb weight 1251kg					
1.0 TSI 95	93	112	11.2	49.6	129
1.0 TSI 115	112	120	10.3	47.1-49.6	130-136
1.5 TSI	148	132	11.2	46.3-47.9	133-139

Karoq 5dr SUV	£26,545-£38,805	★★★★☆
Yeti replacement may not have its forebear's quirkiness, but it's brilliant otherwise. LxWxH 4382x1841x1603 Kerb weight 1265kg		
1.0 TSI 110	108	117 11.3 44.8-47.9 133-143
1.5 TSI	148	126 9 42.8-44.8 143-149
2.0 TSI 190 4x4	188	132 7 33.2 191
2.0 TDI 116	114	118 10.7 58.9 126
2.0 TDI 150	148	127 9.0 50.4-52.3 142-148
2.0 TDI 150 4x4	148	121 8.8 42.8 172-174



Maxus Mifa 9
On sale March, price £65,149
Chinese commercial vehicle maker Maxus – born from the ashes of LDV – has joined the UK car market with a luxurious electric MPV to rival the Mercedes-Benz EQV et al. The oddly named Mifa 9 offers seven seats within a boldly styled, 5.2m-long body that is motivated by a 241bhp motor on the front axle. A vast 90kWh battery affords it a WLTP range of 273 miles – 60 more than the less powerful and same capacity EQV. The Mifa 9’s interior looks smart, too, with a large touchscreen and what Maxus calls an “intelligent driving housekeeper”.

MARCH
Alfa Romeo Tonale PHEV, Audi Q8 E-tron, Q8 E-tron Sportback, SQ8 E-tron, SQ8 E-tron Sportback, BMW Z4 update, BYD Atto 3, Citroën e-C4 X, DS 3, 3 E-Tense, Ferrari SP3 Daytona, Hyundai Ioniq 6, Ineos Grenadier, Jaguar F-Type 75, Kia Soul EV Urban, Land Rover Range Rover Velar update, Lexus RX, Maxus Mifa 9, Mazda CX-5 MHEV, CX-60 diesel, Mercedes-AMG C63, S63, Mercedes-Benz A-Class update, B-Class update, EQE SUV, EQS SUV, Peugeot e-208 update, 408, Polestar 2 BST Edition 270

APRIL
Alfa Romeo Giulia update, Stelvio update, Audi R8 GT RWD, TT Final Edition, TT RS Iconic Edition, TTS Final Edition, BMW X5 update, X6 update, XM, Honda CR-V, Lexus RZ, Mercedes-Benz CLA update, Mini Electric Cooper S E Convertible, Peugeot 3008 PHEV update, Porsche 911 Dakar, Cayenne update, Cayenne Coupé update, Skoda Enyaq iV vRS

MAY
Always U5, Alpine A110 R, BMW 7 Series PHEV, M2 Coupé, Honda e:Ny1, Maserati MC20 Cielo, Mazda 2 update, Mercedes-Benz EQ1, Noble M500, Vauxhall Mokka EV update

JUNE
Abarth 500e, Aston Martin DB11 update, BMW M3 CS, Honda ZR-V, Lamborghini Aventador successor, Lexus UX 300e update, Lotus Eletre, Ora Funky Cat GT, Peugeot e-308, e-308 SW, 508 update, 508 SW update, Praga Bohema, Vauxhall Astra Electric, Astra GSe, Astra Sports Tourer Electric, Grandland GSe

JULY
BMW Alpina B5 GT, Chevrolet Corvette Z06, Dacia Jogger Hybrid, Lamborghini Huracán Sterrato, Maserati GranTurismo, Mercedes-Benz EQE update, EQS update, EQS SUV update, Munro Mk1, Peugeot 5008 Hybrid, Volkswagen ID 3 update

AUGUST
Ferrari Purosangue, Jeep Grand Cherokee, Lucid Air, Pagani Utopia, Smart #1, #1 Brabus

SEPTEMBER
Ford Mustang, Mustang Convertible, Jeep Avenger, Mercedes-Benz E-Class, Vauxhall Corsa update, Corsa Electric update

OCTOBER
Ford Puma ST Hybrid, Hyundai Ioniq 5 N, Maserati GranTurismo Folgore, MG 4 EV AWD, Nio ET5, Porsche Panamera, Rolls-Royce Spectre, Volkswagen ID 7, Touareg, Volvo EX30

NOVEMBER
Aston Martin DBS 770 Ultimate, Bentley Mulliner Batur, BMW 5 Series update, Czinger 21C, Ford E-Tourneo Custom, E-Transit Custom, Kia EV9, Koenigsegg CC850, Maserati Grecale Folgore, Mazda MX-30 REX, Ora Next Cat, Polestar 3, Renault Clio update, Ssangyong Torres, Subaru Crosstrek, Toyota bZ Compact, C-HR, Volkswagen ID Buzz GTX, ID Buzz LWB, Volvo C40 Recharge update, XC40 Recharge update

DECEMBER
Citroën C3, C3 Aircross, Ferrari SF90 VS, Fiat supermini, Ford crossover EV, Maserati GranCabrio, Mercedes-AMG GT, Mini 3dr, 5dr, Polestar 4, Renault Scenic, Skoda Superb, Suzuki Swift, Volkswagen Passat Estate, T-Cross update, Tiguan



Revised X5 and X6 get new hybrid tech



VAUXHALL

Corsa 5dr hatch

£18,065–£34,535

★★★★☆

Improved in many ways but lacks the appeal to match its price. EV is more likeable.

LxWxH

4060x1765x1433

Kerb weight

1141kg

1.2 75	72	108	12.4	53.3	125
1.2 100	97	121	9.3	48.7-52.3	126-134
50kWh Electric	132	93	7.6	209	0

Astra 5dr hatch

£25,290–£40,400

★★★★☆

Eye-catching, refined and polished to drive, but less practical than its predecessors.

LxWxH

4373x1860x1441

Kerb weight

1341kg

1.2 Turbo 110	108	124	10.2	54.3	119
1.2 Turbo 130	128	134	9.9	54.3	119
1.6 Hybrid	178	140	9.3	201-256	24-26
1.5 Turbo D 130	128	130	10.6	64.2	115

Astra Sports Tourer 5dr estate £26,490–£38,485
More spacious Astra wagon is as attractive as the hatchback. We have yet to drive it. **LxWxH** 4642x1860x1480 **Kerb weight** 1346kg

1.2 Turbo 110	108	124	10.8	52.3-53.3	125-127
1.2 Turbo 130	128	130	9.9	49.6-51.4	127-133
1.6 Hybrid	178	140	9.3	201-256	24-31

Crossland 5dr SUV £20,295–£28,355
Still only a mid-pack player in a busy crossover market, but simple and easy to operate. **LxWxH** 4212x1765x1605 **Kerb weight** 1245kg

1.2i 83	81	105	14.0	47.1	142
1.2i Turbo 110	108	117	10.6	47.1	140
1.2i Turbo 130	128	128	9.1	44.1-48.0	136-146

Mokka 5dr SUV £23,490–£38,645
Radically overhauled crossover now comes with the option of battery-electric power. **LxWxH** 4151x1791x1531 **Kerb weight** 1750kg

1.2 100	99	115	10.6	51.4	124
1.2 130	128	125	9.1	47.1-50.4	126-137
50kWh Electric	134	93	8.7	201	0

Grandland 5dr SUV £29,905–£42,360
Does well to disguise its 3008 roots but too bland to stand out in a congested segment. **LxWxH** 4477x2098x1609 **Kerb weight** 1350kg

1.2 Turbo 130	128	117	10.4	45.6	141-147
1.6 Hybrid	223	140	8.9	192.0-210.0	34
1.5 Turbo D 130	128	119	12.3	54.3	136

Combo Electric Life 5dr MPV £34,085–£36,545
Van-based people carrier is usable, spacious and practical, and now electric-only. **LxWxH** 4403x1841x1921 **Kerb weight** 1474kg

50kWh	132	84	11.7	174	0
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VOLKSWAGEN					
Up 3dr/5dr hatch		£14,210-£18,360		★★★★☆	
It's no revolution, but VW's hallmarks are in abundance.					
LxWxH 3600x1428x1504		Kerb weight 926kg			
1.0 65	64	100	15.6	54.3	119
1.0 115 GTI	113	119	8.8	51.4	125-126

Polo 5dr hatch £19,505–£28,540
A thorough going-over makes it more mature, but the Polo is still a bit boring. **LxWxH** 4053x1946x1461 **Kerb weight** 1105kg

1.0 80	78	106	15.4	51.4	125
1.5 TSI 95	93	116	10.8	48.7-53.3	120-127
1.0 TSI 110	108	121	9.9	53.3-54.3	118-119
2.0 TSI GTI	204	149	6.5	39.8-41.5	155

Golf 5dr hatch £25,765–£48,250
New strengths and familiar ones carry it back to the class lead, but only marginally. **LxWxH** 4284x1789x1492 **Kerb weight** 1231kg

1.0 TSI 110	108	126	10.2	53.3	121
1.5 TSI Evo 130	128	130	9.1	51.4-53.3	121-124
1.5 TSI Evo 150	148	139	8.9	50.4-51.4	124-128
1.4 TSI eHybrid	201	137	7.4	235.4	21-26
1.4 TSI GTE	242	140	6.7	235.4	27-28
2.0 TSI GTI	242	155	6.4	38.2	169
2.0 TSI 300 GTI	296	155	5.6	38.2	167
2.0 TSI 320 R 4Motion	296	155	4.7	36.2	177
2.0 TDI 115	113	126	10.2	67.3-68.9	107-110
2.0 TDI 150	148	139	8.8	64.2	116-117
2.0 TDI 200 GTD	197	152	7.1	54.3	137

Golf Estate 5dr estate £27,090–£45,190
Wagon puts on a growth spurt and adopts the eighth-generation hatchback's tech. **LxWxH** 4633x1789x1497 **Kerb weight** 1295kg

1.0 TSI 110	108	126	10.5	51.4	124
1.5 TSI 130	128	133	9.4	52.4	123
1.5 TSI 150	148	139	8.7	49.6	128
2.0 TSI R 4Motion	316	155	4.9	35.8	178
2.0 TDI 115	113	126	10.5	64.2	114
2.0 TDI 150	148	139	9.1	61.4	121
2.0 TDI 4Motion Alltrack	198	142	7.1	50.4	147

ID 3 5dr hatch £37,140
A very mature electric car whose substance of engineering is central to its appeal. **LxWxH** 4261x1809x1568 **Kerb weight** 1730kg

150kW 58kWh	201	99	7.3	261	0
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Passat 4dr saloon					
Lands blows on rivals with its smart looks, civilised refinement, quality and usability. LxWxH 4767x2083x1476 Kerb weight 1367kg					
1.5 TSI Evo 150	148	137	8.9	46.3-47.9	139-146
2.0 TDI 150	148	139	9.1	58.9-60.1	124-127

Passat Estate 5dr estate £32,760–£40,515
All the Passat's redeeming features in spacious, practical estate form. **LxWxH** 4767x2083x1516 **Kerb weight** 1395kg

1.5 TSI Evo 150	148	133	8.9	44.8-45.6	144-151
2.0 TDI 150	148	130-132	9.1	56.5-57.6	128-132

Arteon 4dr saloon £38,820–£55,875
VW's flagship saloon is well made and luxurious but rather bland to drive. **LxWxH** 4862x1871x1450 **Kerb weight** 1505kg

1.5 TSI 150	148	137	8.9	42.8-44.8	144-151
2.0 TSI 190	187	149	7.9	36.2-38.2	168-178
2.0 TSI R 4Motion	316	155	4.9	31.0	207
2.0 TDI 150	148	137	9.3	55.4-58.9	126-134
2.0 TDI 200	197	147	7.9	51.4-54.3	137-145
2.0 TDI 200 4Motion	197	145	7.4	46.3	159

Arteon Shooting Brake 5dr estate £40,060–£56,760
Hybrid option and estate bodystyle's extra versatility enhance the Arteon's appeal. **LxWxH** 4866x1871x1450 **Kerb weight** 1529kg

1.5 TSI 150	148	135	8.9	42.2-43.5	145-153
2.0 TSI 190	187	145	7.9	35.8-37.2	171-179
1.4 TSI eHybrid	218	138	7.8	217.3	31-32
2.0 TSI R 4Motion	316	155	4.9	31.0	207
2.0 TDI 150	148	135	9.4	54.3-57.6	128-136
2.0 TDI 200	197	145	7.9	50.4-53.3	139-147
2.0 TDI 200 4Motion	197	143	7.4	46.3	161

Touran 5dr MPV £33,980–£36,535
Dull overall, but it's a capable MPV, well made and hugely refined. **LxWxH** 4527x1829x1659 **Kerb weight** 1436kg

1.5 TSI Evo 150	148	118	11.4	39.8-40.9	154-162
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T-Cross 5dr SUV £22,535–£30,625
Compact crossover delivers a classy, substantial feel on UK roads. **LxWxH** 4108x1760x1584 **Kerb weight** 1270kg

1.0 TSI 95	93	112	11.5	47.9	132-133
1.0 TSI 110	108	117	9.9-10.4	42.8-48.7	132-149
1.5 TSI Evo 150	147	124	8.5	46.3-47.1	136-138

Taigo 5dr SUV £23,540–£30,990
Crossover-coupé-SUV-type thing fills a niche. Likeable enough. **LxWxH** 4266x1757x1518 **Kerb weight** 1407kg

1.0 TSI 95	95	114	11.1	51.4	124
1.0 TSI 110	110	119	10.4	51.4-52.3	124-125
1.5 TSI 150	150	132	8.3	47.9	138

T-ROC 5dr SUV/open £26,210–£42,285
VW's junior SUV is beguiling and sophisticated. It drives rather well, too. **LxWxH** 4234x1992x1573 **Kerb weight** 1270kg

1.0 TSI 110	108	115	10.8	43.5-46.3	133-146
1.5 TSI Evo 150	148	127	8.4	40.9-47.9	144-158
2.0 TSI 4Motion	188	135	6.8	36.2	177-178
2.0 TSI R 300 4Motion	298	155	4.9	31.7	201
2.0 TDI 115	113	116	10.4	56.5-60.1	137-146
2.0 TDI 150	148	124	8.8	50.4-53.3	140-146

Tiguan 5dr SUV £30,030–£38,665
An improvement on the previous model and will continue to sell by the bucketload. **LxWxH** 4486x1839x1654 **Kerb weight** 1490kg

1.5 TSI Evo 130	128	119	10.9	44.1-44.8	143-146
1.5 TSI Evo 150	148	126	9.2-9.4	38.2-42.2	143-168
2.0 TDI 150	148	125-127	9.4	47.1-50.4	146-157

Tiguan Allspace 5dr SUV £34,320–£46,115
Has all the Tiguan's sensibility and refinement, now with the bonus of seven seats. **LxWxH** 4486x1839x1654 **Kerb weight** 1490kg

1.5 TSI Evo 150	148	123	9.5-10.3	37.2-39.2	164-176
2.0 TSI 4Motion	188	132	6.2-7.7	32.5	193
2.0 TDI 150	148	126	9.7	44.8-47.1	164-165
2.0 TDI 150 4Motion	148	123-124	9.8	41.5	177-179
2.0 TDI 200 4Motion	197	132	7.8	40.4-41.5	176-184

ID 4 5dr SUV £38,845–£52,865
Impressively refined and versatile SUV marks VW out as a maker of fine electric cars. **LxWxH** 4584x1852x1640 **Kerb weight** 1890kg

109kW 52kWh	148	99	10.9	213	0
125kW 52kWh	170	99	9.0	213	0
150kW 77kWh	204	99	8.5	317	0
220kW GTX	299	112	6.2	301	0

ID 5 5dr SUV £50,710–£62,585
Tech-heavy, practical sloping SUV is easy to live with, but rivals are sharper to drive. **LxWxH** 4599x1852x1615 **Kerb weight** 2167kg

150kW 77kWh	170	99	10.4	327	0
150kW 77kWh Performance	204	99	8.4	314	0
220kW GTX	295	112	6.3	301	0

Touareg 5dr SUV £56,125–£58,805
Hints of ritziness and sportiness don't impinge on this functional luxury SUV's appeal. **LxWxH** 4878x2193x1717 **Kerb weight** 1995kg

3.0 V6 TDI 231	228	135	7.6	33.6-34.4	214-219
3.0 V6 TDI 286	282	148	6.1	33.6-34.9	213-219

VOLVO

S60 4dr saloon

£44,580-£56,480

★★★★☆

Fresh-faced saloon now sits comfortably among the ranks of its German peers. **LxWxH** 4761x1916x1437 **Kerb weight** 1616kg

2.0 B5P	246	112	6.7	41.5	153
2.0 T8 Recharge PHEV	384	112	4.6	122.8-176.5	42

V60 5dr estate £41,330–£57,635
Spacious and comfortable, with a characterful, Scandi-cool design. **LxWxH** 4761x1916x1427 **Kerb weight** 1729kg

2.0 B3	161	112	9.1	40.9	155
2.0 B4	197	112	8.0	41.5	152
2.0 B5	246	112	6.8-6.9	37.7-40.4	157-170
2.0 B6	297	112	6.0	36.2	175
2.0 T6 Recharge PHEV	335	112	4.6	362.6	18
2.0 B4D	197	112	7.6	47.0-50.4	146-156

S90 4dr saloon £63,080–£67,830
Volvo's mid-sized exec majors on comfort, style and cruising ability. **LxWxH** 4963x2019x1443 **Kerb weight** 1665kg

2.0 T8 Recharge PHEV	384	112	5.1	na	na
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V90 5dr estate £50,255–£70,780
Luxury estate takes on the 5 Series and the E-Class. Comfy and a good cruiser. **LxWxH** 4936x2019x1475 **Kerb weight** 1679kg

2.0 B4P	197	112	7.9	40.9	158
2.0 B5P	246	112	6.9	36.6-40.4	159-175
2.0 B6P	297	112	6.4	34.4-36.2	1



PRESENTS

THE *LEGENDS* SERIES



If you missed the first three editions in the *Legends* series, gathering some of the best stories from the past 20 years of *Classic & Sports Car* magazine, fear not because there are still copies available. We kicked off with *Sports Car Legends*, featuring everything from the first car created for pure driving pleasure, the Vauxhall Prince Henry, to modern classic roadsters. The second edition, *Porsche Legends*, celebrates the finest Stuttgart icons, while the brilliant *Supercar Legends* explores some of the fastest and most outrageous machines to grace the public roads.

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ROAD TEST INDEX

The latest and greatest rated as only Autocar knows how

A road test in any other magazine might well be a short, subjective summary of a new car produced under almost any circumstances, but the Autocar road test is different. Specific, rigorous and detailed, it's the closest examination we can give of any new model. It appears over at least eight pages and is close to 50 man-hours in the making every week.

Most of what the road test process entails is designed to be strictly repeatable and fair. We benchmark standing-start and in-gear acceleration at a purpose-built test facility every week. We carry out both subjective and objective handling tests on both road and track, on the latter up to and beyond the limit of grip, so as to fully assess stability, drivability and limit handling appeal. And while benchmark lap times are sometimes taken, they're never an end in themselves.

We record and publish stopping distances, too, as well as taking cabin noise measurements at various cruising speeds and benchmarking either indicated or brim-to-brim fuel economy. We independently measure leg room, head room, boot space and certain key exterior vehicle dimensions, and we also weigh every car we test.

Just as every new car is different, however, the road test has developed to be versatile enough, week by week, so as to best assess and reflect the suitability of each test subject to its intended purpose. It now includes modular sections describing in detail the limit handling of a new car, or its semi-autonomous assisted driving technologies or its off-road capability.

All of this goes to bringing you the most thorough, relevant and fair test of a new car we can produce. The scores from the most recent road tests reproduced here are the ones we gave the cars at the time so they don't necessarily represent what those same cars might score today were they rejudged using current class standards. But you can dig deeper into their attributes by using the magazine publication dates listed here to look up an old test in your own collection or you can order a back issue by phoning 0344 848 8816.

Matt Saunders, road test editor



ALFA ROMEO	
Giulia Quadrifoglio ★★★★★	29.3.17
Stelvio 2.2D 110 Milano ★★★★★	3.1.18
Quadrifoglio ★★★★★	9.1.19

ALPINA	
B3 Touring ★★★★★	4.11.20
B8 Gran Coupé ★★★★★	22.9.21

ALPINE	
A110 Premiere Edition ★★★★★	16.5.18
Légende GT ★★★★★	9.3.22

ARIEL	
Atom 4 ★★★★★	9.10.19
Nomad ★★★★★	24.6.15

ASTON MARTIN	
Vantage V8 ★★★★★	23.5.18
F1 Edition Coupé ★★★★★	1.9.21
DBS Superleggera ★★★★★	21.11.18
DBX ★★★★★	28.10.20
707 ★★★★★	30.11.22

AUDI	
A1 Sportback 35 TFSI S line ★★★★★	2.10.19
A3 Sportback S3 ★★★★★	18.11.20
A4 S4 TDI ★★★★★	18.9.19
R54 Avant ★★★★★	14.2.18
A5 S5 ★★★★★	11.1.17
A5 Sportback 2.0 TFSI S line ★★★★★	8.3.17

A6 40 TDI S line Avant ★★★★★	14.11.18
50 TFSI S Line Quattro ★★★★★	5.1.22
RS6 Avant Carbon Black ★★★★★	11.3.20
A7 Sportback 50 TDI Sport ★★★★★	11.7.18
A8 L 60 TFSI Sport Quattro ★★★★★	17.6.20
TTRS ★★★★★	7.12.16
E-tron 55 Quattro ★★★★★	26.6.19
S Quattro ★★★★★	2.6.21
Q2 SQ2 Quattro ★★★★★	20.3.19
Q4 E-tron 40 Sport ★★★★★	7.7.21
Q5 2.0 TDI S line ★★★★★	15.3.17
SQ5 Quattro ★★★★★	21.6.17
SQ5 Sportback TDI Quattro ★★★★★	3.8.22
Q8 50 TDI S line ★★★★★	26.9.18
R8 V10 Plus ★★★★★	30.12.15

BENTLEY	
Continental GT W12 Coupé ★★★★★	2.5.18
Speed Coupé ★★★★★	22.12.21
Flying Spur W12 ★★★★★	15.7.20
Hybrid Mulliner ★★★★★	17.8.22
Bentayga W12 ★★★★★	18.5.16

BMW	
1 Series 118i M Sport ★★★★★	30.10.19
2 Series 220i Coupé ★★★★★	1.6.22
M2 CS M-DCI ★★★★★	19.8.20
218i Gran Coupé M Sport ★★★★★	8.4.20
3 Series 320d M Sport ★★★★★	15.5.19
330d xDrive M Sport ★★★★★	15.1.20
330e M Sport ★★★★★	1.7.20
4 Series M440i xDrive ★★★★★	6.1.21

M4 Competition ★★★★★	21.4.21
M4 CSL ★★★★★	16.11.22
5 Series 520d M Sport ★★★★★	31.5.17
545e M Sport ★★★★★	20.10.21
M5 ★★★★★	18.4.18
M5 CS ★★★★★	14.7.21
6 Series GT 630d xDrive ★★★★★	18.11.17
7 Series i7 xDrive60 ★★★★★	15.2.23
8 Series 840d xDrive ★★★★★	16.1.19
M8 Competition Convertible ★★★★★	5.2.20
M8 Competition Coupé ★★★★★	3.6.20
i3 1.35 Range Extender ★★★★★	21.2.18
i4 M50 ★★★★★	19.1.22
iX xDrive50 M Sport ★★★★★	2.3.22
X1 xDrive23i M Sport ★★★★★	25.1.23
X2 M35i ★★★★★	25.9.19
X3 xDrive20d M Sport ★★★★★	17.1.18
X4 M Competition ★★★★★	13.11.19
X5 xDrive30d M Sport ★★★★★	2.1.19
X7 xDrive M50i M Perf'nce ★★★★★	9.9.20

CATERHAM	
Seven 420 Cup ★★★★★	31.8.22

CHEVROLET	
Corvette LT3 Coupé ★★★★★	22.6.22

CITROEN	
Ami Colour ★★★★★	11.1.23
C3 Aircross Puretech 110 ★★★★★	7.3.18
C4 Puretech 130 Auto ★★★★★	26.5.21
C5 X Puretech 180 ★★★★★	28.9.22
C5 Aircross BlueHdi180 ★★★★★	13.2.19

CUPRA	
Born 204 58kWh V3 ★★★★★	6.7.22
Leon 310 V23 Estate ★★★★★	8.9.21
2.0 TSI 245 V22 Hatch ★★★★★	27.7.22
Ateca 2.0 TSI 4Drive ★★★★★	23.1.19
Formentor 2.0 TSI V22 ★★★★★	3.2.21

DACIA	
Sandero Stepway Tce 90 ★★★★★	28.4.21
Duster SCe115 Comfort ★★★★★	22.8.18
Jogger 1.0 Tce 110 Comfort ★★★★★	20.4.22

DALLARA	
Stradale ★★★★★	16.10.19

DS	
3 Crossback Puretech 155 ★★★★★	10.7.19
4 E-Tense 225 ★★★★★	29.6.22
7 Crossback Puretech 225 ★★★★★	19.9.18
9 E-Tense 225 ★★★★★	2.2.22

FERRARI	
488 Pista ★★★★★	7.8.19
296 GTB ★★★★★	21.12.22
812 Superfast ★★★★★	25.7.18
SF90 Stradale ★★★★★	3.11.21

FIAT	
Panda 4x4 Twinair ★★★★★	17.4.13
500 Abarth 595 ★★★★★	26.2.14
Icon 42kWh ★★★★★	26.1.22

FORD	
Fiesta 1.0T EcoBoost ★★★★★	9.8.17
ST 31.5T EcoBoost ★★★★★	15.8.18
Focus 1.5 EcoBoost 182 ★★★★★	20.2.19
ST ★★★★★	11.9.19
Mustang 5.0 V8 GT F'back ★★★★★	24.2.16
Bullitt ★★★★★	5.12.18
Mustang Mach-E Extended Range RWD ★★★★★	23.6.21
GTAWD ★★★★★	27.4.22
Puma 1.0T 125 MHEV ★★★★★	25.3.20
ST ★★★★★	24.3.21
Kuga 2.5 PHEV ST-Line ★★★★★	24.6.20
Ranger Raptor ★★★★★	28.8.19

GENESIS	
GV60 Sport Plus ★★★★★	24.8.22
G70 2.2 CRDi Luxury Line ★★★★★	10.11.21
Electrified G80 ★★★★★	12.10.22
GV80 3.0D Luxury 5-Seater ★★★★★	15.9.21

HONDA	
E Advance ★★★★★	26.8.20
Jazz 1.5i-MMD Hybrid EX ★★★★★	7.10.20
Civic 1.5i-VTEC Turbo ★★★★★	19.4.17
2.0 Type R GT ★★★★★	25.10.17
Clarity FCV ★★★★★	12.7.17
HR-V e:HEV ★★★★★	24.11.21
CR-V 1.5T EX CVT AWD ★★★★★	7.11.18

HYUNDAI	
i10 1.2 MPI Premium ★★★★★	15.4.20
i20 1.0T-GDI 100 48V ★★★★★	24.2.21
N ★★★★★	25.8.21
i30 N ★★★★★	27.12.17
1.4 Premium SE ★★★★★	13.9.17
Kona Electric 64kWh ★★★★★	31.10.18
Santa Fe 2.2 CRDi ★★★★★	6.3.19
Tucson 1.6 T-GDi Hybrid ★★★★★	17.3.21
Nexo ★★★★★	12.6.19

JAGUAR	
F-Type V8 S Convertible ★★★★★	12.6.13
2.0 R-Dynamic Coupé ★★★★★	22.11.17
P575 R AWD Coupé ★★★★★	29.4.20
XF 2.0 R-Sport ★★★★★	2.12.15
300 R-S Sportbrake ★★★★★	17.4.19
XE 2.0 R-Sport ★★★★★	1.7.15
E-Pace D180 AWD SE ★★★★★	11.4.18
F-Pace 2.0d AWD ★★★★★	11.5.16
P400e R-Dynamic HSE ★★★★★	1.12.21
SVR ★★★★★	24.7.19
I-Pace EV400 S ★★★★★	12.9.18

JEEP	
Compass 2.0 M'jet 4x4 L'd ★★★★★	3.10.18
4xe S ★★★★★	16.2.22

Renegade 4xe Trailhawk ★★★★★	30.6.21
Wrangler 2.2 M'Jet-II Ov'd ★★★★★	10.4.19

KIA	
Rio 1.0 T-GDI 3 Eco ★★★★★	1.3.17
Ceed 1.6 CRDi 115 2 ★★★★★	29.8.18
Proceed 1.4 T-GDi ★★★★★	27.2.19
Xceed 1.4 T-GDi ★★★★★	20.11.19
Niro EV 3 ★★★★★	7.9.22
EV6 77.4kWh GT-Line RWD ★★★★★	12.1.22
Sportage 1.6 HEV 2WD ★★★★★	15.6.22
Sorento 1.6 HEV G-TDi 2 ★★★★★	20.1.21

LAMBORGHINI	
Huracán Performante ★★★★★	11.10.17
Evo RWD Coupé ★★★★★	20.5.20
Aventador SVJ ★★★★★	19.6.19
Urus ★★★★★	3.7.19

LAND ROVER	
Defender 110 P400 X ★★★★★	13.5.20
Discovery Sport D180 AWD ★★★★★	8.1.20
Range Rover Evoque P300e ★★★★★	
	10.2.21
Range Rover Velar D240 ★★★★★	30.8.17
Range Rover Sport D300 ★★★★★	2.11.22
SVR ★★★★★	15.4.15
Range Rover D350 HSE ★★★★★	13.7.22

LEXUS	
LC 500 Sport+ ★★★★★	18.10.17
NX 350h Prem'm Plus Pack ★★★★★	16.3.22
RCF ★★★★★	18.2.15
ES 300h Takumi ★★★★★	6.2.19
LS 500h Premier AWD ★★★★★	6.6.18

LOTUS	
Elise Cup 250 ★★★★★	29.6.16
Exige Sport 390 Final Edit'n ★★★★★	21.7.21

MASERATI	
Ghibli Diesel ★★★★★	12.3.14
Quattroporte Trofeo ★★★★★	4.8.21
Levante S Granlusso ★★★★★	8.5.19

MAZDA	
2.1.5 Skyactiv-G SE ★★★★★	22.4.15
3.2.0 Skyactiv-X ★★★★★	6.11.19
MX-5 1.5 SE-L Nav ★★★★★	2.9.15
MX-30 145PS ★★★★★	10.3.21
CX-5 2.2D Sport Nav ★★★★★	28.6.17

MCLAREN	
Artura ★★★★★	19.10.22
600LT Spider 3.8 V8 ★★★★★	22.5.19
620R 3.8 V8 ★★★★★	23.12.20
GT 4.0 V8 ★★★★★	27.1.21
720S 4.0 V8 ★★★★★	24.5.17
Senna 4.0 V8 ★★★★★	10.10.18
P1 ★★★★★	7.5.14

MERCEDES-AMG	
A-Class A45 S 4Matic+ Plus ★★★★★	4.3.20
C-Class C63 S Coupé ★★★★★	24.4.19
CLS 53 4Matic+ ★★★★★	17.10.18
EQS 53 4Matic+ ★★★★★	8.6.22
GT R ★★★★★	10.5.17
GT 4-Door Coupé 63 4Matic+ ★★★★★	
	13.3.19

SLC 43 ★★★★★	6.7.16
GLC 63 S 4Matic+ ★★★★★	13.6.18
GLE 53 4Matic+ ★★★★★	14.10.20

MERCEDES-BENZ	
A-Class A200 Sport ★★★★★	4.7.18
A250e AMG Line Premium ★★★★★	5.8.20
B-Class B180 Sport ★★★★★	3.4.19
CLA 250 ★★★★★	21.8.19
C-Class C300e AMG Line ★★★★★	4.5.22
E-Class E400 Coupé ★★★★★	14.6.17
E300 Cabriolet ★★★★★	6.10.21
S-Class S580e 1 ★★★★★	6.4.22
EQA 250 ★★★★★	17.11.21
EQB 300 4Matic ★★★★★	18.5.22
EQE 350+ ★★★★★	4.1.23
GLB 220d 4Matic ★★★★★	16.9.20
GLC 250d ★★★★★	10.2.16
G-Class G350d AMG Line ★★★★★	17.7.19
GLS 400d ★★★★★	12.2.20
X-Class X250d 4Matic ★★★★★	20.6.18

MG	
31.5 3Form Sport ★★★★★	25.12.13
5 SW EV Exclusive ★★★★★	25.11.20
ZS EV Exclusive ★★★★★	4.12.19

MINI	
Mini Cooper S ★★★★★	2.4.14
Cooper S Works 210 ★★★★★	6.12.17
Clubman Cooper D ★★★★★	25.11.15
Convertible Cooper S Sport Automatic ★★★★★	
	19.5.21
Countryman Cooper D ★★★★★	22.2.17
Plug-in Hybrid ★★★★★	26.7.17

MITSUBISHI	
Eclipse Cross 1.5 2WD ★★★★★	14.3.18
Outlander PHEV GX4hs ★★★★★	16.4.14

MORGAN	
Plus Four ★★★★★	12.8.20
Super 3 ★★★★★	9.11.22

NISSAN	
Micra 0.9 N-Connecta ★★★★★	26.4.17
DIG-T117 N-Sport ★★★★★	27.3.19
Juke 1.0 DIG-T117 ★★★★★	29.1.20
Qashqai 1.3 DIG-T158 ★★★★★	28.7.21
Ariya 87kWh Evolve ★★★★★	26.10.22
X-Trail e-Power e-4orce AWD Tekna ★★★★★	
	22.2.23
GT-R Recaro ★★★★★	16.11.16

ORA	
Funky Cat 48kWh First Ed'n ★★★★★	1.2.23

PEUGEOT	
208 e-208 Allure Premium ★★★★★	6.5.20
308 1.2T Puretech 130 GT ★★★★★	25.5.22
508 GT BlueHdi180 ★★★★★	24.10.18
Hybrid 225 Allure SW ★★★★★	8.7.20
PSE Hybrid4 SW ★★★★★	5.5.21
2008 e-2008 GT Line ★★★★★	30.9.20
3008 1.6 BlueHdi GT Line ★★★★★	18.1.17
5008 2.0 BlueHdi GT Line ★★★★★	1.11.17

POLESTAR	
1 ★★★★★	21.10.20

PORSCHE	
718 Boxster ★★★★★	8.6.16
Spyder ★★★★★	1.4.20
Cayman S ★★★★★	10.8.16
Cayman GTS ★★★★★	9.5.18
Cayman GT4 RS ★★★★★	14.9.22
911 GT2 RS ★★★★★	18.7.18
Carrera S ★★★★★	29.5.19
GT3 PDK ★★★★★	11.8.21
Turbo S ★★★★★	10.8.22
Cayenne Turbo ★★★★★	5.9.18
Turbo S E-Hybrid ★★★★★	27.5.20
Turbo GT ★★★★★	20.7.22
Taycan Turbo S ★★★★★	29.7.20

RENAULT	
Clio TCe 100 Iconic ★★★★★	27.11.19
Mégane E-Tech Electric ★★★★★	23.11.22
Kadjar dCi 115 Dyn.S Nav ★★★★★	21.10.15
Arkana E-Tech Hybrid 145 ★★★★★	13.10.21
Captur 1.3 TCe 130 EDC ★★★★★	18.3.20

ROLLS-ROYCE	
Phantom ★★★★★	4.4.18
Ghost ★★★★★	13.1.21
Wraith ★★★★★	21.5.14
Dawn ★★★★★	1.6.16
Cullinan Black Badge ★★★★★	19.2.20

SEAT	
Ibiza SE Technology 1.0 TSI ★★★★★	19.7.17
Leon eHybrid FR ★★★★★	2.12.20
Arona SE Technology 1.0 TSI ★★★★★	15.11.17
Ateca 1.6 TDI SE ★★★★★	19.10.16

SKODA	
Fabia 1.0 TSI 95PS ★★★★★	9.2.22
Scala 1.5 TSI 150 DSG ★★★★★	31.7.19
Octavia 2.0 TDI 150 SE L First Edition	
DSG Estate ★★★★★	2.9.20
2.0 TDI vRS ★★★★★	17.2.21
Superb 1.4 TSI IV 218 SE L ★★★★★	26.2.20
Karoq 2.0 TDI 150 Scout ★★★★★	30.1.19
Enyaq iV 80 ★★★★★	18.8.21
Kodiahq 2.0 TDI Edition ★★★★★	23.11.16
2.0 TSI 245PS vRS 4x4 ★★★★★	23.2.22

SSANGYONG	
Tivoli XLV ELX auto ★★★★★	14.9.16

SUBARU	
XV 2.0i SE Lineartronic ★★★★★	28.2.18

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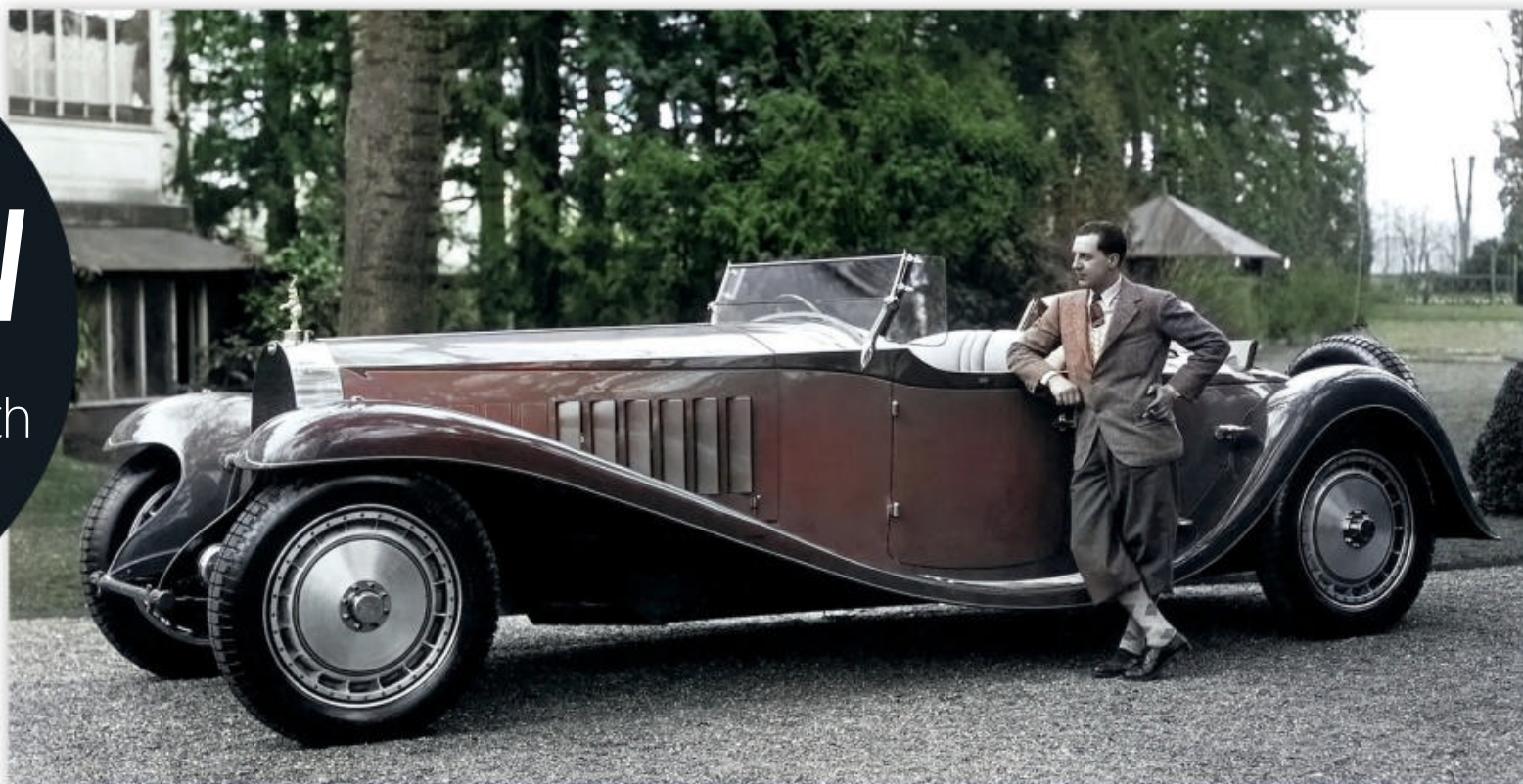
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SLIDESHOW

The production cars with the biggest engines ever made

As the motor industry embraces downsizing – a prelude to the engine as we have come to know it disappearing entirely – we’re looking at all the cars from the past and present that headed in the other direction. Here are some of the biggest-engined cars ever built. With this collection of behemoths, there really is no replacement for displacement.

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Bugatti Royale 12.8 litres

Whether we can call seven cars a production run is a moot point, but the Type 41 Royale deserves more than a mention. Its 12.8-litre engine was derived from a design penned for the French Air Ministry but never used. The straight-eight motor came with three valves per cylinder and produced 300bhp. However, those valves needed regular regrinding and that was an engine-out job. The engine drove through a three-speed gearbox mounted in the centre of the chassis and, depending on the coachwork fitted, the 3175kg Royale could top 100mph. Ettore Bugatti (pictured) planned to make 25 of them, but the Great Depression put paid to that idea. The Royale engine was used in the mid-1950s by 79 railcars built for SNCF.



Dodge Ram 8.3 litres

The Ram SRT-10 was a pick-up with a V10 purloined from the Dodge Viper. The engine was simple, with only two valves per cylinder and natural aspiration. When it arrived in 2004, the Ram SRT-10 had 500bhp on tap and could deliver 0-60mph in 4.9sec as well as achieve a 154mph top speed. The shorter-cab version came with a six-speed manual as standard, but the five-seat Quad Cab model had a four-speed auto transmission as its only option.



Cadillac Eldorado 8.2 litres

The Eldorado line began in 1953 and engine capacity steadily grew as it progressed into the 1960s. It reached its zenith in 1970 with the 500cu in (8.2-litre) V8 that produced a relatively lazy 400bhp. This capacity was achieved by using a different crankshaft to increase the V8's stroke. The 1970s' malaise-era emissions regulations gradually strangled it and it made only 190bhp in 1976, although optional electronic fuel injection boosted this to 215bhp.



Chevrolet Suburban 8.1 litres

Born in 1934, the Suburban is the world's longest-running nameplate. In 2001, GM decided to fit the SUV with its 8.1-litre Vortec V8, or L18 in Chevy-speak, delivering 340bhp in the weightier 2500HD and 3500HD models. Chevrolet also used the engine in marine applications and to power a number of large motorhomes because of its prodigious torque of 440lb ft from low revs. However, fuel economy concerns killed it off when the 10th-generation Suburban arrived in 2007.



Bentley 8-Litre 8.0 litres

This 1931 Bentley's 220bhp straight-six engine featured an iron block made in a single piece with non-detachable cylinder heads for strength, and four valves per cylinder, and it had rubber mounts that were unusual for the period. The same economy that hit the Bugatti also did for Bentley: Rolls-Royce bought it out of bankruptcy and quickly cancelled the 8-Litre after 100 examples had been produced.



Rolls-Royce Phantom II 7.7 litres

Its 7.7-litre straight six was an impressively smooth and refined engine that owed its relaxed running to seven main bearings and also featured a one-piece cylinder head cast in aluminium. The Continental model had racier camshafts as an option to increase power. The factory never disclosed outputs but some people estimate around 120bhp for the standard model. A total of 1681 Phantom IIs were made from 1929 to 1935.



Lincoln Continental 7.6 litres

Lincoln's fourth-generation Continental arrived in 1961, but Ford extended its 7.0-litre V8 to 7.6 litres in 1966 to create the biggest-engined car the Blue Oval had produced up to that point. Good for 341bhp, it enjoyed only a three-year life in the Continental, but the 7.6-litre version remains the most sought-after by classic car fans for its rarity and appeal as the grandest engine used in the Continental.

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